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Founder and Editor: STANLEY SPOONER

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EDITORIAL COMMENT



IN another part of this issue of FLIGHT we print the full rules and conditions for the conduct of the competition for the prizes announced to be given by the Government for improved commercial aircraft types, including both land and marine heavier-than-air machines. We do not propose to enter into much detailed criticism of these rules, inasmuch as they speak for themselves, and those who intend to participate in the contest are fully capable of appreciating the rules and what they mean. They are undoubtedly severe in their requirements. Indeed, they seem to err on the side of undue severity if they err at all, and we doubt not there will be adverse criticism directed against them on account of that severity. On the whole, we are not inclined to the view that they are unfair in their requirements. It is clearly

The
Rules
of the
Government
Tests

laid down that in giving the prizes the Government have had before them the fact that if commercial aviation is to develop as we hope and believe it will in the future it must be made as reasonably safe as any other mode of transport. In order that it shall be safe, the factors of safety must be made as high as possible without being impossible of attainment. During the War, the one and only goal set to the designer and constructor was military efficiency. Nothing else mattered, and it is well known that some of the most militarily efficient types were not by any means as "safe" as the commercial type needs must be. Now the whole trend of things has been reversed, and the first essential is safety even at the expense of some degree of efficiency. Of course, if it is possible to combine safety with high efficiency so much the better, but where any part of a quality may have to be sacrificed to obtain a high factor of the other, it is safety that must be the first consideration.

Certain of the conditions we have heard described as impossible of fulfilment. We take leave to doubt if this criticism is intended to be taken too literally. We have all within our recollection a number of things which were quite impossible of achievement at some anterior period, but which are the common-places of today. Flying itself was 15 years ago an utter impossibility. Later, when the initial problems of dynamic flight had been surmounted, all sorts of subsidiary prophecies were made as to its limitations. One by one these prophecies were falsified, and we have seen the impossible of yesterday translated into the actual fact of today, until we have quite justifiably come to regard nothing as being impossible.

Reverting to the rules under discussion, as we have said, generally speaking there is really very little to find fault with. The rules are undoubtedly in some cases severe, very severe, while some others appear to be unnecessarily lenient. Thus, to take one example, the maximum speed asked for, for small vehicles, is, only 100 m.p.h. For a machine carrying only one occupant, in addition to the pilot, this seems somewhat low. It should be remembered that the whole *raison d'être* of the aeroplane as a commercial vehicle is its superiority in speed over other means of locomotion. With a maximum speed of 100 m.p.h. an aeroplane making a cross-country flight will often, if it is to be run on a *regular* mail or passenger service,

have to fight a head wind of 30 to 40 m.p.h., which will mean that its ground speed is reduced to 60 or 70 m.p.h. This is quite low enough, and it should be remembered that these figures apply to a machine flying "all out," while in most cases the greater part of the journey will be made at cruising speed. The cruising speed asked for for small machines is 80 m.p.h. for $3\frac{1}{2}$ hours, which, against such head winds as must be expected, would still further reduce the actual ground speed. However, those responsible for the framing of the regulations evidently realise this, and marks will be given to machines exceeding the minimum top speed of 100 m.p.h. asked for, the marks allotted being $\frac{1}{2}$ for each m.p.h. above the 100 m.p.h.

If rule 5 may appear to be on the lenient side, at any rate as regards the smaller machines, the same cannot be said of rule 6, which requires the small machine to land in a circle of 175 yds. diameter, and the large machine in a circle of 275 yds., both types first to clear an obstacle 50 ft. in height. The small machine could scarcely touch the ground less than 50 yds. inside the obstacle, which would only leave a straight run of 125 yds. before pulling up. And this, it should be pointed out, is to be done in "still" air. We should not like to say that this cannot be done, for the low landing speeds demanded will mean either light wing loading or the employment of high-lift wing sections, but it will not be easy to fulfil this rule. Possibly something may be done in the way of setting the wings at a greater angle of incidence than is usually done, especially as the maximum speed asked for is not very high. Some tests carried out at the Royal Aircraft Establishment tended to show that the length of run was reduced very materially by increasing the angle of incidence of the planes.

The question of inherent stability, which was a feature rather disliked by pilots for War machines—in which manoeuvrability was the chief consideration—is to be one of the qualities demanded in the commercial machine. Rule 11 requires competing machines to be able to fly for five minutes at cruising speed without the use of controls. If desired, this test may be carried out with the standard controls locked in any desired position.

Under "General Features," Rule 17, there appears to be little to find fault with. Sub. para. (h) refers to freedom of entry and exit for occupants. On looking up the marks allocated for this feature it is found that this is only 2. We confess that we should have liked to see somewhat greater importance attached to this feature. Not only is the question of entry and exit of great importance as regards the comfort of the passengers, but in the case of an enclosed aeroplane it may become a matter of life and death in case of a crash. A machine which after a bad landing can discharge its occupants quickly is evidently safer than one in which considerable time is taken to extricate the passengers. Furthermore, the mere knowledge that in case of a bad landing it will be easy to get out of a machine will in itself add very materially to the comfort and peace of mind of the passengers. We have no desire to emphasise this side of passenger flying unduly, but it is a contingency which has to be reckoned with.

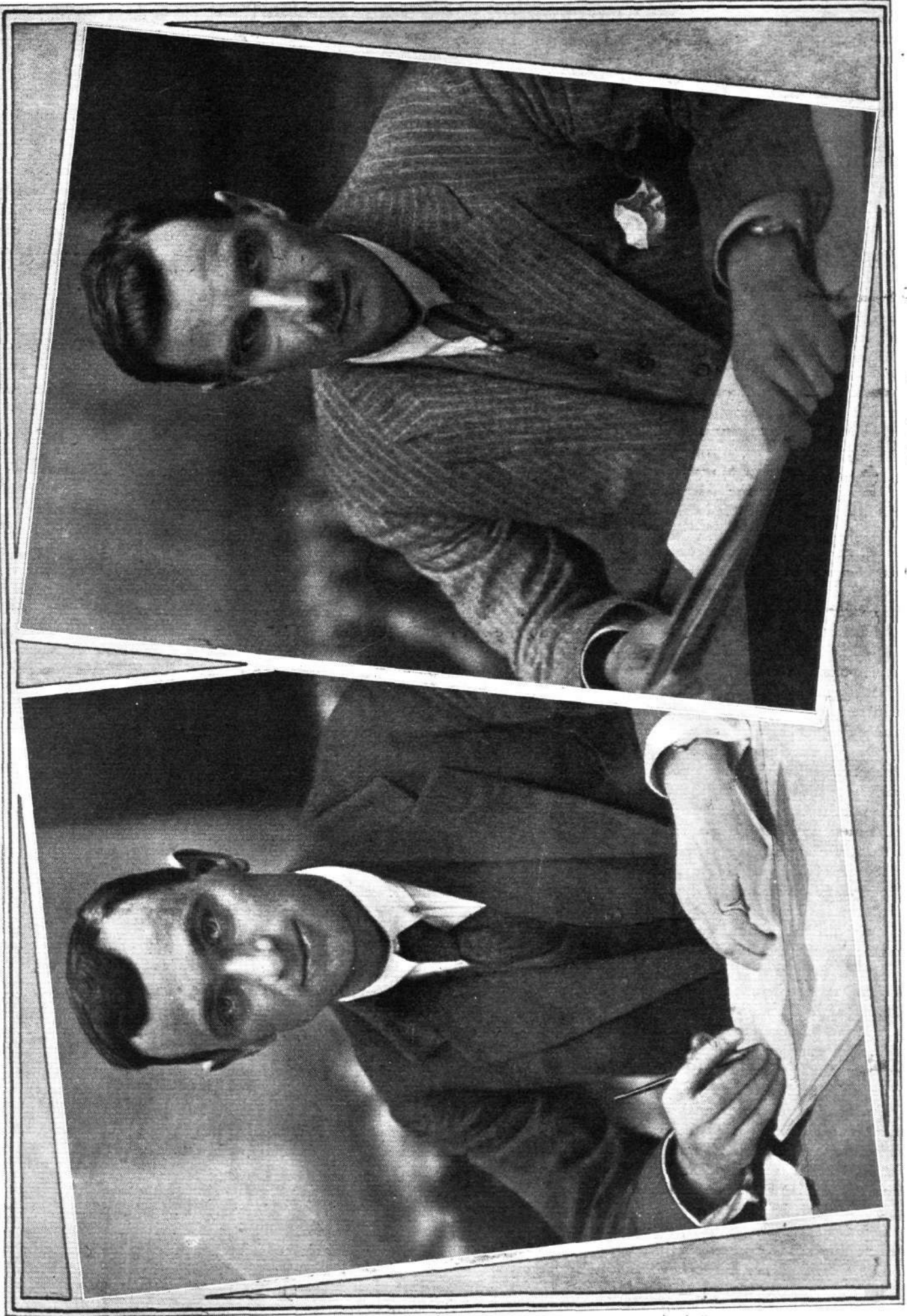
The rules for seaplanes—and apparently this term covers both float machines and flying boats—are very similar to those relating to land machines, and are, generally speaking, quite fair. Seaplane rule 6,

which demands that the machine shall clear an obstacle of 25 ft. in height, after a run of only 300 yds., is perhaps somewhat severe, Sub. para. (d) states that this taking-off test is to take place in still air. Presumably this also includes a calm sea, as the latter might easily be of more importance than the former. The machines, it will be noticed, are required to start from the sea, alight on land, and start from land again. This is apparently a resurrection of the Mortimer Singer prize won by a Sopwith bat boat before the War. Although it may at first sight appear that there can be little object in requiring a machine primarily intended to operate over water to be capable of alighting on land, it should be remembered that a seaplane may easily during a long journey find itself some distance inland, and that in such a case to be able to land safely will be a great advantage. Old R.N.A.S. pilots who have found themselves some 30 miles inland on 225's will readily appreciate this point. That the seaplane should also be able to take-off from the land again is really a natural corollary, since it is of little use for a machine to be able to land safely on, for instance, a desert, if it cannot get off again. Again, in the seaplane-conditions it is laid down that machines must be capable of being moored out in waters with "not more than a four-and-a-half feet lop." As a matter of fact, that represents quite a respectable run of seaway—more than is likely to be encountered in any enclosed harbour likely to be used for seaplane work. We take it that the idea is that a seaplane may be compelled by force of circumstances to alight away from a harbour and in a considerable sea and it is to test the sea-keeping qualities of machines that this condition has been included. But it is questionable if any seaplane or flying boat can live in such a sea for more than an hour or two. It is not only that $4\frac{1}{2}$ ft. is quite a good sea, but that to raise it a considerable wind must be blowing and between the two—well, the business man had rather be ashore or in the air. However, as we have said, it is better to err on the side of severity than on that of undue leniency. It is desirable to avoid giving the public anything in the shape of misplaced confidence in aircraft and for that reason alone we are not disposed to fall foul of the regulations.

• • • **"Anti-Aircraft" Defences**

We do not count ourselves among the lesser critics of waste and extravagance in Government Departments, but we must say we are not inclined to join in the outcry that is being made because there still remain on service some couple of thousand officers and men of the anti-aircraft defences. While we agree that this *personnel* should be demobilised at the earliest possible moment, it must be recognised that there has been a large amount of clearing-up work to be done in connection with the disbandment of this part of our forces and that, even if the officers and men had been dispensed with, this work would have had to be carried out by civilian labour. It took, literally, years to bring our defences against hostile aircraft to a proper degree of efficiency. We began the war and received our first visit from German air-raiders when anti-aircraft defences were virtually non-existent. In the later months of the war the defences had grown to such importance and efficiency that the Hun had been driven to realise that the game of raiding these islands was one that did not pay for the candle. We do not know the

Flight—And the Men



MR. H. P. MARTIN (left), Chairman and Managing Director, and MR. G. H. HANDASYDE (right), Director and Technical Manager of Messrs. Martinsyde, Ltd.

"Flight" Copyright

exact number of guns and searchlights employed on this service, but we do know that they were to be numbered in thousands and that it would, therefore, be absurd to expect that they could be all packed up and the stations cleared as though the *personnel* had been engaged in a cricket match. It cannot be done and the authorities are entitled to at least a reasonable amount of consideration in the matter of demobilisation. Still, no harm has been done by the direction of attention to what, at first sight, might appear to be one of the minor scandals of the post-War period. We have no doubt the anti-aircraft service is not singular in its *personnel* or that it includes in its ranks some who are disposed to hang on to comfortable jobs for as long as possible. Now that the subject has been ventilated the authorities may be impelled to make sure that the clearing-up process shall not be unduly prolonged and that the limpets shall be removed as early as is consistent with the public service.

"Titular Anomalies" in the R.A.F.

A disgruntled correspondent of *The Times*, who signs himself "A Country Squire," complains of the use of the title of Marshal in the R.A.F. He says that for some centuries the rank of Marshal has, in Continental Armies, been a mark of rare distinction and very grudgingly bestowed. In our own Army, quite properly, the distinction is only awarded in exceptional cases, and a general officer of great merit may close his career without ever having reached this high rank. He asks:

"Does a spirit of complete levity pervade the Air Council? Has it nothing else to do except to constantly change its titles and its uniforms?"

"Would it not be better employed in stopping the maintenance of anti-aircraft guns nine months after the signing of the Armistice; in putting an end to the misuse of its official cars; in demobilising the many thousands of W.R.A.F.'s who are idling about the country; in stopping the training of many of these girls as lady drivers, which is still going on, etc.?"

"When several South American States were recently endeavouring to purchase large numbers of surplus aeroplanes at big prices from the Air Ministry, is it not a fact they were told that these aeroplanes might still be wanted, although at the time large numbers of aeroplanes were, by official orders, being destroyed in various parts of the country?"

Really, we do not see where the grievance lies. It was necessary in order to properly differentiate between the three Services that new titles should be coined for the senior officers of the R.A.F. and, no doubt, after the fullest consideration of alternatives, the present titles were decided upon. Is the title of "Marshal" so sacrosanct that it is not to be employed at all, even with the distinctive additions which go to make up the title of a senior officer of the R.A.F.? And is there any reason why we should consider the manner in which Continental Army practice happens to differ from our own? If we are to be bound by every case which might figure as a precedent, both here and abroad, there would be an end at once of all progress.

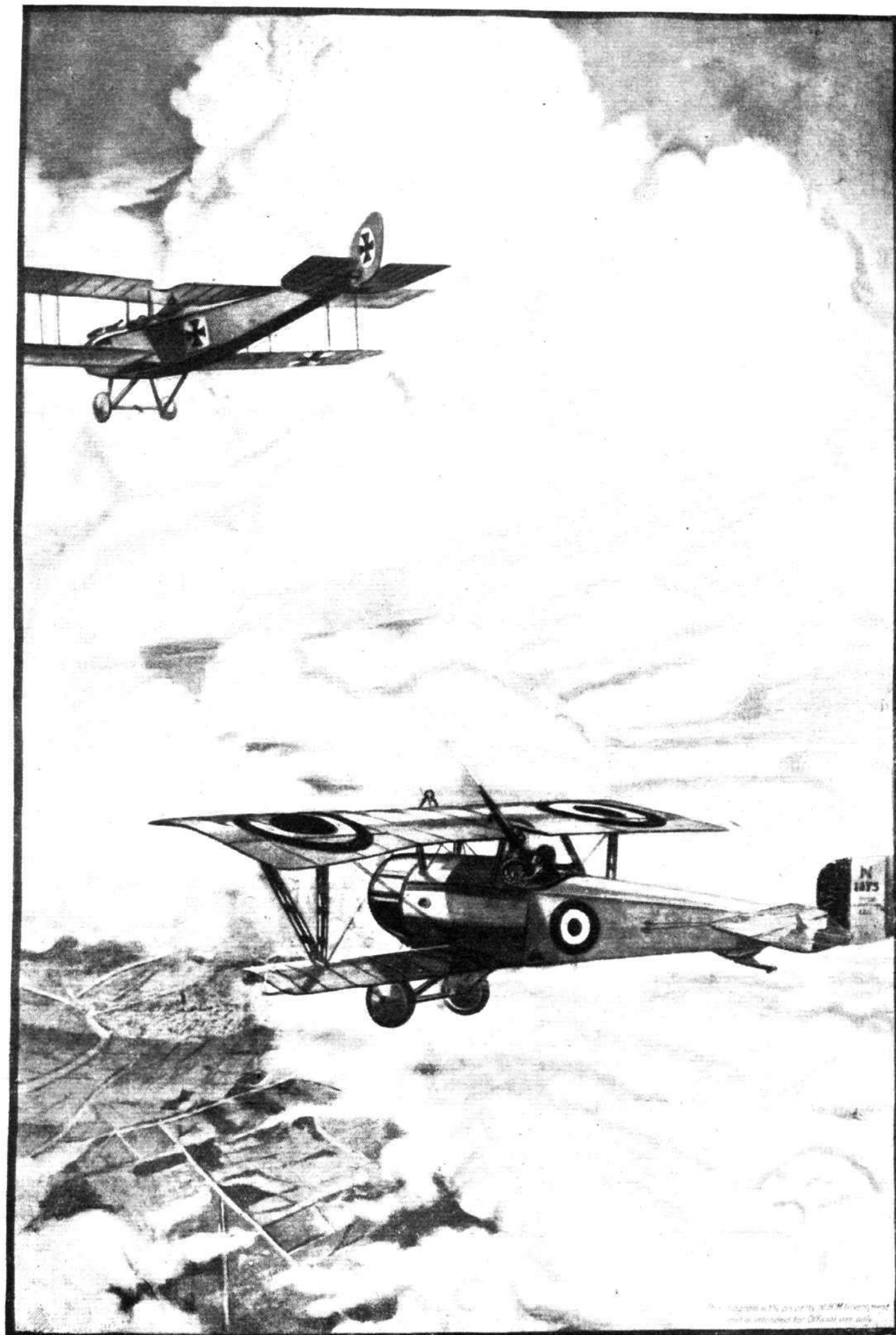
The point that in the British Army the title of Marshal is only given to officers of exceptional merit it quite beside the question. Moreover, the title is qualified in the very same way that the R.A.F. titles are made self-explanatory. As a matter of fact, there is no title of "Marshal" in the British Army.

The highest rank in our Army is that of "Field-marshal," as it is in the German Army. In France an officer of this rank is a "Marshal of France." We submit that these qualifications make all the difference in the world. If "A Country Squire" had wanted to complete his case he might have reminded us that in America a country chief constable is a "United States Marshal!" That, he would doubtless aver, is simply a sacreligious misuse of the title!

Air Policy

The Times continues its criticism of the aerial policy of the Government, particularly regarding the real or supposed intention to close down the Civil Aviation Department of the Air Ministry. We have been unable to obtain any direct confirmation of this intention. As a matter of fact, we do not think *The Times* has any absolutely direct information on the subject, but there are nevertheless significant indications about which serve to show which way the wind is blowing. Undoubtedly, the Government has become seriously alarmed at the condition into which the nation's finances have fallen as a result of the unexampled expenditure on the war and after indulging in a wild orgy of extravagance, the swing of the pendulum is taking it all the other way. A wave of economy is sweeping over the Cabinet, and the intent now is to cut down Estimates at every turn.

As an abstract policy this is absolutely right, but economy quite as much as expenditure requires to be exercised with due discrimination. Misplaced economy may, in the long run, be quite as harmful as wilful waste and extravagance. To close down the Civil Aviation Department is one of those measures of economy which would be far more expensive to the nation in the end than to keep it going and to expend far more money on it than the miserable pittance of half-a-million which was supposedly placed at the disposal of Gen. Sykes out of this year's Estimates of £66,000,000. We say supposedly placed at the disposal of the head of the Department, because that was the sum alleged to have been allocated for the encouragement of civil aviation, though it would be interesting to know exactly how much has actually been expended on such "encouragement." The recent announcement of prizes to the value of £64,000 is the first direct expenditure on encouragement of which the general public has any knowledge. Let it be said that we do not attach the smallest blame to the Department itself. The faults lie higher up and at the root is the desire to economise in all directions but the right one. Unless we are very greatly out in our reckoning, the next few days will afford a striking index to the manner in which the Government is approaching this question of economy in matters affecting aviation. We believe it will be shown that the Government is prepared to suffer any loss on past contracts and arrangements and virtually to make a present of material which has cost the nation enormous sums to anyone who will undertake to use it commercially and will not ask for financial help or backing from the State to assist in the development of civilian aviation. We cannot, for reasons which are quite sufficient to ourselves, indicate more precisely at the moment what we know to be going on, but we have said enough to show that matters are moving in a direction which makes *The Times* theory that the intention is to scrap the Department of Civilian Aviation seem to have a solid foundation on fact. What the Government



A Sitter. (Drawing published by the Air Technical Services for use at the R.A.F. Schools.)

suggests in effect is: "We will make you a present of all this material and write off all our losses on past Estimates, but for Heaven's sake don't ask us to add a penny to any future Estimates, because it can't be done."

If, as we believe to be the case, that is the present attitude of the Government, it certainly points to an intention to allow civil aviation to fend for itself in the future.

What it Would Mean

Assuming the theories to be right—and for the sake of argument no harm can result from the assumption—the wiping out of the Department would throw the development of civil aviation over to private enterprise. Now, if that should result, it would follow that the control exercised by the Government would be merely analogous to that exercised over motoring. It would be confined to simply making sure that the factors of safety of aircraft conformed to a reasonable standard and that a system was in being whereby transgressors of the law could be brought to book with a minimum of trouble. There the functions of the State would almost of necessity end because there are lengths of control to which the State cannot proceed without being a partner. Such a measure of control would be all that is needed if flying were not international and if British commercial aviation were simply to be developed within the confines of the British Isles. But it is not. It is essentially an international affair and can never be anything else. That being so, it is clear that a greater measure of Government control is essential and that cannot be exercised except by a strong Department of Civil Aviation with power to encourage development and even to assist in financing the movement until such time as commercial aviation is able to stand on its own feet.

Now, it being clear that control is necessary, how is it to be exercised in default of the existence of a Civil Department? In that case, it can only be administered by the military side of the Air Ministry. That is perfectly clear. Equally clear is it that commercial flying cannot possibly develop under military control, if only for the reason that no European Power would allow quasi-military machines to have

the constant and unquestioned right of aerial access to their territories, and this country would be a mere "dead-end." Another point is that, although we do not look forward to another great war in our time, there is no certainty that within the next 10 or 15 years we may not be engaged in another struggle for existence. At least, common prudence dictates that we should take elementary precautions against being caught unprepared. In the event of another war it is unquestionably true that air power will play a great, even a decisive part in the struggle. Now, it is obvious that we cannot establish military air bases sufficient to give us the requisite aerial supremacy to ensure victory or to maintain great non-remunerative stations all over the world. Nor need we do so if the development of civil aviation is approached in a proper way. We can have those stations and establishments on all the great arterial air routes, but they will be civilian stations, under civilian control and management, and instead of being a dead charge on the Estimates—as purely military establishments would be—they would pay their own way after the first year or two. They would then be available in case of war, and in the meantime we should be building up a huge reserve of machines and pilots ready against the day they would be needed for Empire defence. Again, the war 'plane is not suitable to the traffic of peace, but the machine designed for commercial flight can be readily adapted for war if the need arises. On every count, therefore, the case is good for the encouragement of the commercial side of aviation, even if that encouragement should entail some reduction in the sums available for the purely military development of flying. The principal point to keep in mind in this connection is that military material and *personnel*, constructed and trained purely as such, are next door to useless for civilian purposes. Further, they do not and cannot pay their way, but are a dead expense to the country. On the other hand, civilian *personnel* can be so trained and machines so constructed as to be available for either peace or war and can be made to pay their way. To conclude, therefore, the arguments are all in favour of economy in the fighting branch of the Air Service and for spending on the civil side—so long as neither economy nor spending are carried to a dangerous excess.

The Gordon Shephard Memorial Prizes

SIR H. H. SHEPHARD, father of the late Brig.-Gen. G. S. Shephard, D.S.O., M.C., of the R.A.F., has, in memory of his son, placed a sum of money in trust, the income of which is to be applied to the provision of annual prizes for essays by officers, N.C.Os. and men of the R.A.F.

The subjects for the essays will concern the airman's work in the air, and this year separate prizes will be given for essays on: (1) Sea and Fleet Reconnaissance and (2) Aerial Navigation and Pilotage. The administration of the yearly competition will be carried out by the Air Council.

Permits to Visit R.A.F. Aerodromes

In future, visitors to R.A.F. aerodromes must first obtain permits from the Air Ministry.

Requests for permits should be addressed to the Secretary, Air Ministry, and should state clearly the purpose for which a permit is required. The permits, if granted, will be issued subject to such restrictions as the Air Ministry may direct.

R.A.F. Aircraft Using Civil Aerodromes

It is notified by the Air Ministry that in the event of R.A.F. officers *on duty* landing at aerodromes not owned by the Government, the aerodrome authorities, having charges to be paid, should render a bill to the Officer Commanding the Unit to which the officers belong. Officers have been

instructed to sign a receipt for services obtained in these circumstances.

R.A.F. Aerodromes Relinquished

THE Air Ministry announce that the aerodrome at Guston Road (Dover) and the landing ground at New Holland (Yorks) are being relinquished by the R.A.F.

Warning to Aircraft

PILOTS of aircraft are warned by the Air Ministry that kite-balloons will be flown from time to time for purposes of meteorological observation at the following places; Merifield (Tor Point); Larkhill (Salisbury); Caldale (Orkneys); North Queensferry (near Edinburgh).

The cables of these balloons when flying will be marked by streamers at intervals of not more than 500 ft.

The New Aliens Order

IN the new Aliens Order, which comes into force on September 1, there are one or two interesting changes. For instance, the list of "approved" ports at which aliens may land now includes the air stations at Lympne, Felixstowe and Hounslow. Also the Air Council is given the same power as the Admiralty and the Army Council to recommend the Home Secretary to declare any area to be a "protected area" from entering or remaining in which aliens may be prohibited, or if allowed to remain to be subjected to special restrictions.

THE WESTLAND LIMOUSINE

AN account of a trip to Yeovil to inspect the Westland Aircraft Works was published in our issue of August 7, 1919. This referred briefly to the new passenger or mail carrier produced by this firm. At the time it was not possible, from considerations of space, to include a lengthy description of the Westland limousine, and we are therefore now giving a more

a fast and at the same time comfortable means of locomotion. The object kept in mind by the designers was to combine in a modern aeroplane the best points of a high-class motor car and at the same time possessing the initial advantage of the aeroplane—speed. That this object has been attained cannot be denied. The Westland limousine is extremely com-

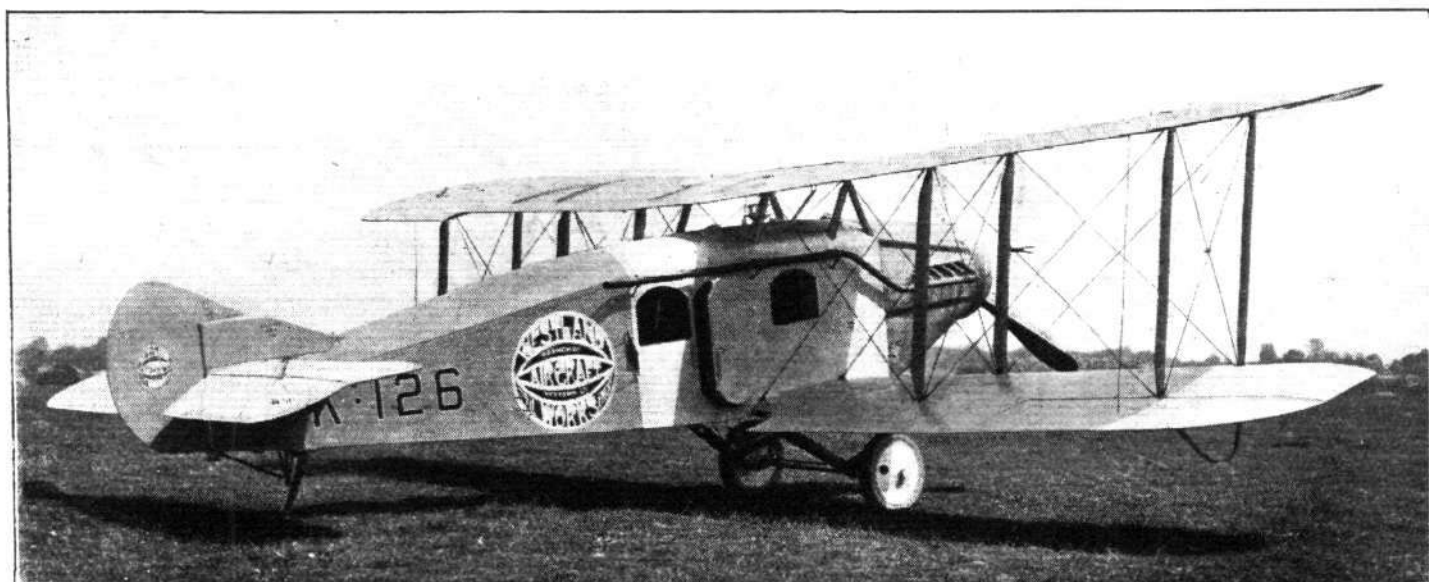


THE WESTLAND LIMOUSINE: Three-quarter front view

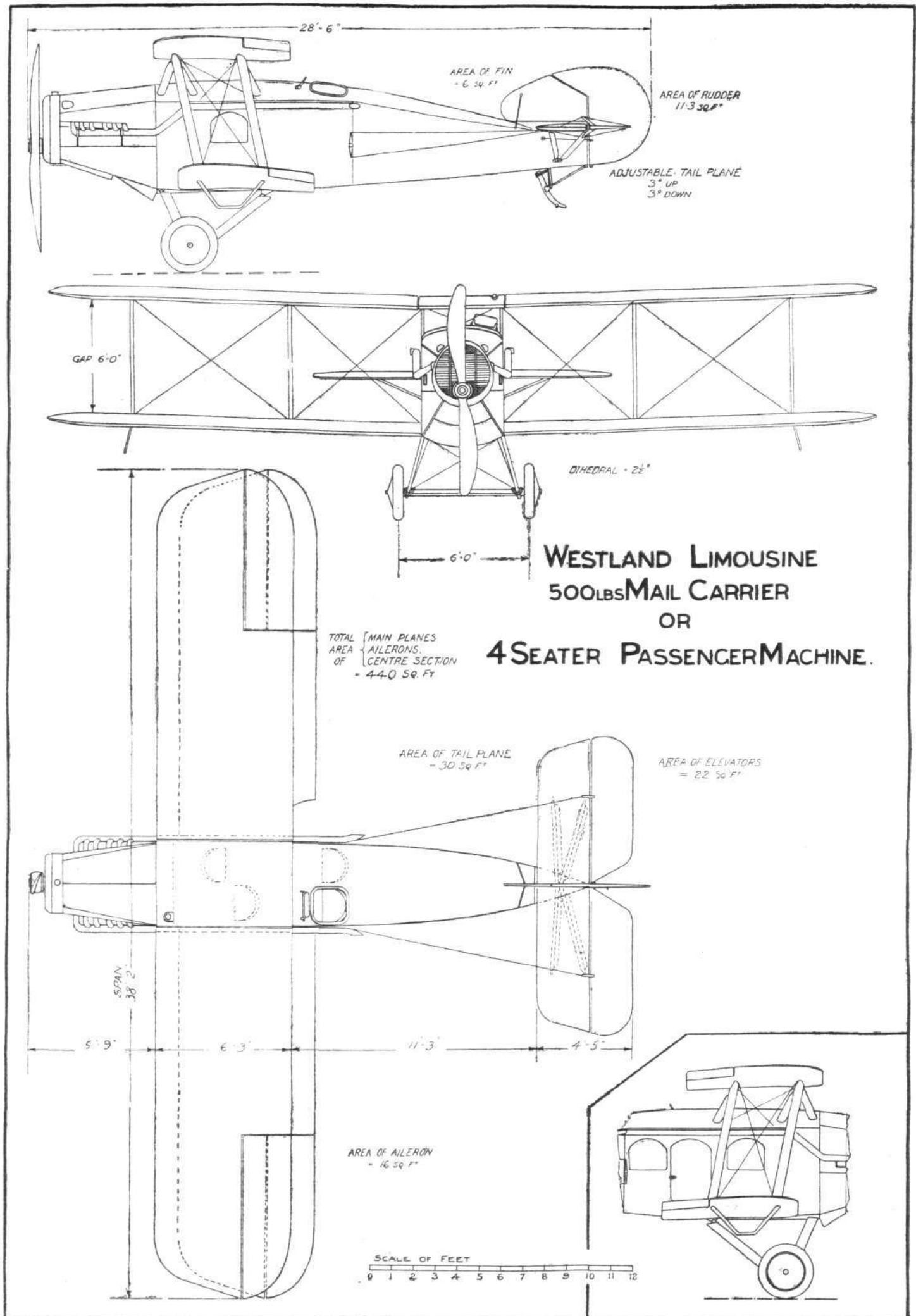
detailed description of it in the present issue. In one respect the first article requires modification, in that the impression was conveyed that the machine was designed by Mr. Davenport. Actually the designer of the limousine, as of all the Westland aircraft, is Mr. R. A. Bruce, who is the head of the Westland Aircraft Works, and with Mr. P. W. Petter, joint managing-director of Messrs. Petters, Ltd. Mr. Bruce is, however, ably assisted by Mr. A. Davenport, chief draughtsman of the Westland Aircraft Works.

The Westland limousine, which has been designed and built since the Armistice, is intended to provide for the man of means, to whom time is of great value,

comfortable to fly in, sheltered as the passengers are from the rush of wind which makes for discomfort in an open machine. It approximates very closely to the motor car, in that it is designed to carry three passengers in addition to the pilot; and while its engine—a 275 h.p. Rolls-Royce "Falcon"—is not of so high a power as to raise running expenses to an exorbitant point, it is nevertheless of sufficient power to give the machine a very good performance, both as regards speed, climb and endurance. That running expenses will be higher than those of a four-seated motor car must be admitted, but then it should be realised that the aeroplane will do cross-



THE WESTLAND LIMOUSINE: Three-quarter rear view



THE WESTLAND LIMOUSINE: Plan, side and front elevations to scale

country journeys very much faster than any motor. Also it is actually a fact that there is less vibration and jolting than in a motor going over any but the smoothest of roads, and consequently it is possible for the owner of such a machine to carry on work *en route* which he could not do with any comfort in a motor car. Thus it is quite easy and comfortable to write or read while the machine is in the air, and Mr. Norton, Commercial Manager of the Westland Aircraft Works, demonstrated on our recent visit to Yeovil that it is quite possible to take up a shorthand typist and to dictate and have typed out letters while the machine is in flight. The time spent on a journey, in addition to being very much shortened by travelling by air, instead of being wasted can be employed for getting through urgent correspondence or other work, and to have such correspondence ready for posting the instant the machine reaches its destination.

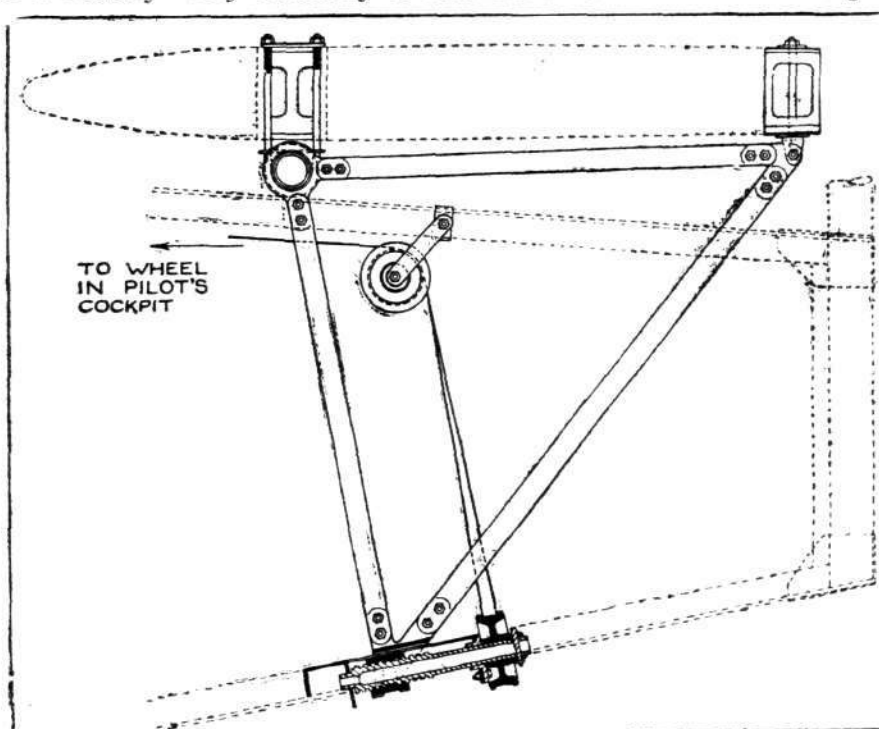
Fundamentally the Westland limousine is an ordinary single-engine tractor biplane, with its body made slightly deeper and wider than that of the usual open type of machine. As will be seen from the illustrations, this has been accomplished without spoiling the lines of the machine, which, as a matter of fact, are very pleasing to the eye.

As regards structural design, the Westland limousine is interesting in several respects. For instance, the unit type of design, which has several marked advantages, has been followed to a considerable extent. Thus the *fuselage* comprises three separate units. The first is the engine mounting and housing, which forms a unit separate from the next one—the cabin. The structure which carries the engine is of the overhung type, and is constructed mainly of steel tubing. This unit is bolted to the cabin unit and is readily removable, should it be desired to change the engine. This system of construction has several advantages. For instance, if it is desired to overhaul the engine it is a simple matter to remove the entire power plant to the engineers' shop, where the work can be most efficiently done. Or, in case of a firm running a passenger or mail service with these machines, if an engine needs overhaul the whole front unit of a machine may be taken out and a new one substituted in a short time, thereby avoiding a long delay before that particular machine can be put into service again. Also, the substitution of one type of engine for another is greatly simplified by the unit system.

Perhaps the most interesting feature of the Westland limousine is the arrangement of the cabin. In order to provide a clearer space inside, the central unit of the *fuselage* has been constructed on a different principle, which does away with any internal bracing. Without going into minute details of the actual construction, it may be said that in principle it consists in covering the sides of the body with ply-wood, stiffened with a framework of diagonal members. Where door and windows occur, bent frames are provided which more than make up for the weakening that might otherwise attend the cutting of the side covering. Thus the

door giving entrance to the cabin is placed on the starboard side, and to make up for the absence of side bracing of the *fuselage* at this point there are curved frames above and below the door which take the place of the ordinary bracing. The added comfort of having the door in the side will be apparent, as the cabin is entered as easily as is the ordinary motor car.

As indicated in the plan view of the general arrangement drawings, the seats of the Westland limousine are arranged in a somewhat unusual fashion. Against the front wall of the cabin, on the starboard side, is one seat facing aft, while the corresponding seat on the port side is placed slightly farther aft and faces forward. In front of the latter seat is a neat little folding table, which may be used for writing, accommodating if desired a typewriter. Of the remaining two seats, both of which face forward, the pilot occupies that on the port side, the starboard one being available for a third passenger. The pilot's seat is raised about a foot off the floor of the cabin so as to bring him into a position with his head projecting through an opening in the roof of the cabin. From here the pilot obtains a very good view, certainly no worse than that obtained in the ordinary tractor biplane, and better than some we have seen. As already mentioned, the entrance door is on the starboard side, and is so arranged that when in flight it is locked by a bar that precludes any possibility of the accidental opening of the door. On the starboard side there are two windows, one for each of the passengers sitting on this side, while the third passenger looks out through a window to port. In the roof of the cabin is a ventilator, adjustable from the inside, which admits air to the cabin and prevents any tendency to stuffiness. The noise of the engine



THE WESTLAND LIMOUSINE: Diagram of the tail plane trimming gear.

is very effectively silenced, partly by the long exhaust pipes, and partly by the fact that the machine is enclosed. What adds considerably to the silence is the provision of an asbestos bulkhead at the front of the cabin. The ordinary three-ply partition would probably act as a very efficient sounding-box and tend to increase rather than decrease the noise.

The seats are upholstered in grey, and the whole cabin is most comfortable and pleasing in appearance, while the occupants are so well protected from oil and dirt of any kind that no special flying rig is required. Lady passengers may travel in this machine in the most delicate frocks without fear of getting them spoiled by oil.

The rear portion of the fuselage is of the usual wood girder wire braced type, and does not call for any special comment. In order to compensate for the difference in weight or number of passengers carried, the Westland Limousine is provided with a tail plane trimming gear. This in itself is not, of course, a novel feature, but the design of the trimming gear itself is somewhat unusual and is, we understand, protected by a patent. As will be seen from the accompanying diagram, the tail plane hinges about its front spar and has its incidence changed by shifting the lower angles of two triangles, formed by steel tubes. The diagram is, we think, self-explanatory. When the worm is rotated in one direction, *via* cables and pulleys, the lower point of the triangle moves forward, dropping the rear spar of the tail plane and thus increasing the angle of incidence. When the pilot rotates the wheel

in his cockpit in the opposite direction, the incidence is decreased.

From the specification printed below, it will be seen that the Westland Limousine has a very good performance, and from a careful watching of the pilot's movements during a recent flight we are convinced that the machine needs very little control during a straightforward flight, while at the same time, when it is desired to manœuvre her quickly she answers very readily and appears quite light on the controls. The following specification gives all the more important data relating to the machine:—

Length overall, 28 ft. 6 ins.; span, 38 ft. 2 ins.; height, 11 ft.; total wing area, 440 sq. ft.; weight empty, 2,183 lbs.; weight fully loaded, 3,383 lbs.; fuel capacity, 3 hours; range, 290 miles; commercial load, 540 lbs.; passenger or cargo space, 95 cubic ft.; Speed, ground level, 100 m.p.h.; at 10,000 ft. 91 m.p.h.; at 15,000 ft. 85 m.p.h. Climb, to 5,000 ft. in 8.35 mins.; to 10,000 ft. in 19.6 mins.; to 15,000 ft. in 37.5 mins.; ceiling, 17,000 ft. Landing speed, 50 m.p.h.; load/sq. ft., 7.8 lbs.; load/h.p., 15.1 lbs. Engine, 275 h.p., Rolls-Royce Falcon. Cruising speed, 85 m.p.h. at 1,750 r.p.m.

The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

Jacques Schneider International Seaplane Race

THIS Race will be held at Bournemouth on Wednesday, September 10, 1919, and machines representing France, Italy and Great Britain will compete. The course is 200 nautical miles, over a circuit of 20 miles (10 times round) in Bournemouth Bay. The start of the Race will take place about 2.30 p.m.

The Royal Aero Club has obtained the loan of the T.S.Y. *Ombra* (350 tons) to accommodate the Members on the day of the Race. This Yacht will be anchored off Bournemouth Pier and will be the official starting and finishing point, the Competitors passing 10 times during the Race. Tickets, £2 each, which include luncheon and tea on board.

Members are requested to make early application to the Club for tickets.

Motor Launches will convey Members from the Pier to the Yacht between 12 noon and 2 p.m. on the day of the Race.

International Seaplane Race

The following are the Competitors for the International Seaplane Race to be held at Bournemouth on Wednesday, September 10 next:—

Great Britain.	Motor.	Pilot.
Sopwith	450 h.p. Cosmos "Jupiter"	H. G. Hawker.
Super-marine	450 h.p. Napier "Lion"	Squad.-Com. B.D. Hobbs, D.S.O., D.F.C.

Avro ..	Siddeley-Deasy "Puma"	Capt. Hammersley.
Fairey	450 h.p. Napier "Lion"	Lieut.-Col. Vincent Nicholl, D.S.O.

(Three Competitors from the above will be selected by the Royal Aero Club to represent Great Britain.)

France.	Motor.	Pilot.
Nieuport	300 h.p. Hispano-Suiza	.. Malard.
Nieuport	300 h.p. Hispano-Suiza	.. Casale.
Spad ..		Sadi Lecointe.

Italy.	Motor.	Pilot.
Savoia	250 h.p. Isotta Fraschini	.. Janello.
S. 13.		

The start will be made from Bournemouth Pier, at about 2.30 p.m., and the circuit of 20 nautical miles embraces Bournemouth, Swanage and Christchurch. The full length of the course is 200 nautical miles, and Competitors will make ten laps of the course.

Arrangements have been made for a Members' Enclosure at the head of the Pier, Bournemouth, and tickets, admitting to the Pier and enclosure, may be obtained from the Club.

Offices: THE ROYAL AERO CLUB,
3, CLIFFORD STREET, LONDON, W. 1.

H. E. PERRIN, Secretary.

Lost Royal Air Force Records

It has been brought to light during the compilation of the official aerial history of the War, that several R.F.C. Squadron Record Books, which are of great value for historical purposes, are missing. The Air Ministry requests that any such books as may be in the possession of demobilised officers or others should be returned, at once, to the Officer in Charge, Air History Branch, Offices of the War Cabinet, 2, Whitehall Gardens, S.W.

Cross-Channel Flights

IN conformity with the information previously issued to the aircraft industry the Air Ministry made the following announcement on Monday:—"Pending the final signature of the International Convention a provisional agreement to allow of flying between France and Great Britain from

Monday, August 25, has been arrived at between the respective Governments."

Air Ministry Staff

A WHITE PAPER issued on August 22 shows that on July 1 the staff of the Air Ministry totalled 3,254. Of this number 282 men and 7 women were permanent staff, and 1,399 men and 1,566 women were temporary staff.

Miss O'Sullivan Demobilised

The *Times* understands that Miss O'Sullivan, late Clothing Controller of the W.R.A.F., has been demobilised by the Air Ministry, although she accepted the invitation to sign on for a further term and signed the necessary form. An inquiry is now proceeding regarding some irregularities alleged by Miss O'Sullivan.

THE LONDON-PARIS AIR SERVICE

MONDAY last saw the inauguration of the daily air service between London and Paris organised by Messrs. Aircraft Transport and Travel, Ltd. Two Airco machines set out from this side and one machine from Paris.

An Airco 4 machine, fitted with Rolls-Royce engine, left Hounslow at 9.10 a.m.; it was piloted by Lieut. E. H. Lawford, and carried Mr. G. M. Stevenson-Reece, of the *Ereuing Standard*, as well as a full load, including a number

piloted by Lieut. J. McMullin, with Lieut. Lawford and Mr. V. M. Console of the *Daily Mail* as passengers, it arrived at Hounslow at 2.45 p.m.

Although the Handley Page service does not start its regular running until Monday next, a preliminary trip was made last Monday. The machine used was of the twin-engined type and the pilot was Maj. Foot, while the 14 passengers included Mr. L. A. Northend, of *The Times*; Maj,



THE LONDON-PARIS AIR SERVICE : Start of the service for Paris from Hounslow Aerodrome on August 25. The Airco machine embarking its passengers, and on the right the first Airco machine just leaving for the journey. Below Gen. F. H. Sykes and Gen. Festing, who were present at the inauguration of the service.

of daily newspapers, a consignment of leather from a London firm to a firm in Paris, several brace of grouse, and a considerable number of jars of Devonshire cream. It arrived at Le Bourget, the Paris terminus, at 11.40.

At 12.30 p.m. an Airco 16, fitted with Rolls-Royce engine, left Hounslow for the regular journey to Paris, the landing being made at 2.45 p.m. Major Cyril Patteson was the pilot, and four passengers were carried.

One machine—an Airco 4A—left Paris at 12.40 p.m., and,



London Air Raid Workers' Memorial

To commemorate the work done during the War by the Metropolitan Observation Service under Commander Paget, which was formed to give information of the presence and position of hostile aircraft, the members of this service have subscribed £276 3s. 6d., which has been sent to the Charing Cross Hospital for the part endowment of a cot in the new Children's Ward. If there are any members who have not yet contributed, they may like to know that the fund is still open. Donations may be sent to the hospital.

No Aerial Shoots?

IN the report of the Departmental Committee which has been considering the subject of the protection of wild birds it is pointed out that a new danger to bird life has been introduced by the shooting or bombing of birds from aircraft. It is also recommended that the use of aircraft for the purpose of killing or taking wild birds should be prohibited.

Vickers-Vimy Flies to Amsterdam

A "VICKERS-VIMY-COMMERCIAL" aeroplane, piloted by Capt. S. Cockerell, carrying numerous copies of the morning editions of various London newspapers, left London for Amsterdam at noon on the 21st instant, arriving at its destination at 3 p.m., having accomplished the journey in three hours. There were eight passengers, in addition to two pilots on board, during this journey. The papers found a ready sale, and the proceeds benefited local charities.

C. C. Turner, *Daily Telegraph*; Mr. E. A. Perris, of the *Daily Chronicle*; Mr. Harold Begbie, *Daily Chronicle*; Mr. Tourtell, *Daily Express*; Mr. Bartholomew, *Daily Mirror*; and Mr. Crosfield, *Daily News*.

The machine started from Cricklewood at 8.20 a.m., called at Hounslow for Customs formalities, was away at 9.20 a.m., and landed at Le Bourget at 1.15 p.m. Owing to difficulty in obtaining petrol the return journey was postponed to the following day.



The Transatlantic Vimy for the Nation

MESSRS. VICKERS, LTD., have expressed their willingness to present to the nation the Vickers-Vimy on which Capt. Sir John Alcock and Lieut. Sir A. W. Brown crossed the Atlantic, but the authorities do not seem to be able to make up their mind as to where they can put it. Messrs. Vickers have suggested that it would be appropriate if the machine could be exhibited at South Kensington, alongside Stephenson's "Rocket."

The Paris Aero Show

THE arrangements are now well forward for the sixth Paris Aero Show, which is to be held from December 19, 1919, to January 4, 1920, in the Grand Palais. It will be held under the auspices of the Chambre Syndicale des Industries Aeronautiques, and applications for space should be addressed to M. le Commissaire général, 9 Rue Anatole de la Forge, Paris (17e).

Commander Read to Fly the Pacific

It appears from a message from Washington that the United States Naval authorities are proposing to send Commander Read, who piloted the N. 3 across the Atlantic, on a voyage across the Pacific. It has not been decided which route will be followed, but Commander Read may try the southern route, in which case he would be obliged to alight at sea to pick up fuel, because the nearest land station—Honolulu—is 2,100 miles from San Francisco.

BRITISH AIRCRAFT COMPETITION

THE Air Ministry makes the following announcement:—

A Committee composed of members of the Air Ministry and of the Aviation Industry has been sitting for the past two months under the chairmanship of the Under-Secretary of State for Air to consider the question of encouraging the future development of aviation on the lines of increased safety. A large number of witnesses has been called, including constructors and designers and representatives of the public who are interested in aviation. It has been decided, as stated in Parliament, to institute a competition open to the British Empire. Prizes to the value of £64,000 will be awarded by the Government under the conditions which are set out below.

RULES FOR A COMPETITION FOR AIRCRAFT TO FURTHER THE ATTAINMENT OF SAFETY OF AIR TRAVEL

Notes on the Competition

(a) The aim of these competitions is to obtain a real advance in the efficiency and design of aeroplanes and seaplanes, more especially with the view of increasing the safety of air travel. The rules drawn up are intended to secure this object.

(b) As regards the rules for aeroplanes it is recognised that the conditions are, generally speaking, easier for the small machine than for the large. The object in this is to attract a large number of competitors from amongst designers of small machines.

(c) The present competitions are not directly aimed at engine reliability nor at economy in fuel and oil consumption, although these are of the first importance, but chiefly at the attainment of efficiency in the machine itself. A much longer time is required to produce radical improvements in engines than in machines, and since it is intended that the present competitions should be held early next year, it has been decided to concentrate attention on the machine on this occasion.

RULES Aeroplanes

1. A competition will be held commencing on March 1, 1920, with the object of ascertaining the best types of aeroplanes which will be safe to travel in, and in particular be capable of alighting in and rising from a small space.

2. Two types of aeroplanes will be entered for the competition.

(a) Small type with a total carrying capacity of two persons (including pilot).

(b) Large type with seating accommodation for 15 persons (exclusive of crew).

3. Machines and engines must have been designed and constructed within the British Empire. This rule will not, however, apply in the case of such secondary equipment as ignition system, carburettors and instruments.

4. Machines are to fulfil all conditions required for a certificate of airworthiness, and are to carry parachutes for all persons for whom accommodation is provided, including crew.

5. Each machine must be capable of flying level at or above the following speeds with full load at ground level:

Small type.	Large type.
100 m.p.h.	90 m.p.h.

and must also be capable of flying level at or below the following speeds with full load at ground level:

Small type.	Large type.
40 m.p.h.	45 m.p.h.

Each machine must also be capable of climbing not less than:

Small type.	Large type.
500 ft. in the first minute, starting from ground level.	350 ft. in the first minute, starting from ground level.

6. Landing and Getting-Off Test.

(a) A circle will be marked out on open ground to represent a field surrounded by obstacles. This circle will be of the following diameter:—

Small machines ..	175 yds.
Large machines ..	275 yds.

The obstacles will be represented by a continuous string or tape with streamers attached, 50 ft. from the ground, of such a nature as to be easily broken by an aeroplane.

(b) The landing to be made in still air. Still air includes any wind not exceeding five miles per hour at ground level.

(c) During landing the machine is not to side-slip nor to

turn, after reaching the obstacles, until it is on the ground. Once it has touched the ground the machine may turn in any direction.

(d) The machine to come to a standstill before reaching the marks representing the boundary of the field.

(e) After landing, the machine to get out of the same field over the 50 ft. obstacle in still air (as defined in sub-para. (b)), no turn to be allowed until clear of the obstacle on the far side.

(f) No breaking device operated by the engine may be used during landing.

(g) Any landing or taking-off gear used, must be integral with the machine.

(h) No landing apparatus may be used that in the opinion of the judges would be liable to cause undue damages to an aerodrome—e.g., a claw attached to the machine as used on certain types of German machines would not be allowed, but the ordinary knife edge on a tail skid would be allowed.

(j) Both landing and taking-off to be with full load.

(k) Each machine will be allowed two trial attempts (which are definitely not to be counted as tests), and thereafter will be allowed four attempts, of which two must be successful.

7. Reliability Tests

(a) In the case of the small type, each machine must carry out a series of two flights of 3½ hours each at a speed, through the air, of not less than 80 m.p.h., starting with full load. Between flights machines will be left untouched, and under seal if necessary, a period of not more than 30 minutes being allowed before the second flight, for the purpose of filling up and normal examination.

No parts of the machine to be adjusted or changed without permission from the judges.

(b) In the case of the large type, each machine must carry out one flight of 7 hours' duration at a speed through the air of not less than 75 m.p.h., starting with full load. Pilots may be changed during these flights.

8. Machines must be capable of landing from a height of 500 ft., with their engines switched off or completely throttled down.

9. In a machine having two or more engines, the stoppage or retardation of any one engine must not prevent the machine from flying level nor cause it to get out of control.

10. Machines must be capable of being started from the cockpit or cabin without undue muscular exertion on the part of the pilot.

11. Machines to be capable of flying at cruising speed for 5 minutes without the use of any controls or stabilising devices. Controls may be locked during this test.

12. Machines to be capable of standing unattended and not fastened down in a wind of 10 m.p.h., blowing in any direction with reference to the machine.

13. The design of the machines to be such that the risk of the machines turning over on a rough ground is reduced to a minimum.

14. Each machine to be provided with a complete outfit for pegging it out in the open. This outfit will not be carried as part of the load during tests.

15. In order to be eligible for prizes, machines must fulfil the conditions and tests laid down in Rules 3 to 14 inclusive. Marks will be awarded for soundness and quality of construction, for general features and for exceeding the specified requirements in Rules 5 and 6.

16. "Soundness and quality of construction" will include:—

(a) Fire protection, including use of self-sealing tanks, position of tanks (from the point of view of safety from fire in event of a crash); fire-fighting appliances and accessibility of same.

(b) Reliability of petrol, oil, and water systems, and facilities for seeing if all tanks are full.

(c) Durability of machine including propeller (any advantages due to metal construction may be taken into account).

(d) Simplicity of design and accessibility of parts.

(e) Absence of vibration in the machine.

17. "General features" will include:—

(a) Efficiency and ease of control.

(b) Unrestricted field of view to the front for the pilot.

(c) Silence, as affecting occupants of the machine including crew.

(d) Comfort generally, including warmth.

(e) Self-starting devices.

(f) Method of wind screening adopted.

(g) Convenience for use of instruments.

(h) Freedom of entry and exit for occupants.

1. With reference to Rule 6, marks will be allotted for the capabilities of machines to land in an area more restricted than that used for the tests.

In judging this, the point vertically below the point where the centre line of the machine crosses the tape will be marked on the ground, and the maximum distance reached by the wheels of the undercarriage will be measured in a straight line from this point.

19. Marks will be allotted for exceeding the minimum high speed and for flying less than the maximum low speed.

20. The judges will have regard to the method of fitting parachutes, and especially to the means of exit by parachute afforded to the occupants of the large machine, and will allot marks for the same.

21. Marks will be allotted for the convenience of pegging out the machine in the open, and for the lightness of the apparatus necessary for pegging down.

22. Marks will not be given on account of the number of engines installed.

23. The following will be the allotment of marks:—
Soundness and quality of construction (Rule 16)—

Sub-para. (a) maximum	8.
(b) ..	8.
(c) ..	6.
(d) ..	6.
(e) ..	4.

Maximum total, 32.

General features (Rule 17).

Sub-para. (a) maximum	6.
(b) ..	6.
(c) ..	6.
(d) ..	5.
(e) ..	5.
(f) ..	3.
(g) ..	3.
(h) ..	2.

Maximum total, 36.

High speed. For each mile per hour in excess of required minimum (Rule 5) .. 1 No maximum.

Low speed. For each mile per hour below required maximum (Rule 5) .. 1 Do.

Landing. For every complete 3 yds. less than the distance allowed in 175 yds. for small and 275 yds. for large machine (Rules 6 and 18) .. 1 Do.

Method of fitting parachutes (Rule 20) 5
Convenience of pegging out (Rule 21) .. 3

Forfeiture of Marks

Adjusting or changing parts in reliability test. See Rule 7 (a) ..	8
For every 2 minutes or portion of 2 minutes in excess of the maximum time allowed for filling, 1 mark. See Rule 7 (a) ..	8

24. With reference to Rule 6, when carrying out the landing, and getting-off test, machines will start with the full load of petrol and oil, and will be allowed to fly for 20 minutes. If they have not carried out their tests by the end of that period, they must land and fill up again.

25. The type of propeller used on any machine must be the same for all the tests.

26. Full load is to include:—

Instruments as under—

Revolution counter.

Aneroid.

Air speed indicator.

Turn indicator.

Compass.

Watch.

Oil pressure gauge (when necessary).

Air pressure indicator (when necessary).

Radiator thermometer (when necessary).

Small type.

Large type.

Petrol and oil sufficient to fly 450 miles at 3,000 ft. In addition, a load of 440 lbs., to include weight of pilot and passenger, if carried, and parachutes.

Petrol and oil sufficient to fly 600 miles at 3,000 ft. In addition, a load of 3,000 lbs., to include weight of passengers if carried, and also to include parachutes but not to include the weight of crew.

27. Petrol and oil for the tests and as far as possible accommodation (at owners' risk) for the machines will be supplied free by the Government.

28. The judges shall have the right to disqualify any machine that is very seriously defective in any respect.

29. The judge shall have the right to put up a service pilot to fly any of the machines, should they consider it desirable to do so at Government risk.

All tests will, however, be carried out by the entrant's pilot.

30. During or on completion of any flying test if it is necessary to effect any repairs to the machine after landing, it will be considered to have failed in that particular test.

This does not apply to cases where the machine is by the judges' instructions being flown by a pilot, other than the entrant's pilot.

31. Any entrant may enter more than one type of machine.

32. If a machine is wrecked during the competition, it may, at the discretion of the judges, be replaced by another, but the replacement machine must carry out the whole programme of tests.

33. The decision of the judges, shall be final in all matters affecting the competition.

34. The Government do not accept any liability in respect of accidents during the competition, whether resulting in injury to personnel or damage to the machine, except as specified in Rule 29.

35. The Government reserve the right to adjourn the competition.

36. The Government reserve the right to withhold any or all of the prizes if in the opinion of the judges no real advance on existing designs is shown.

37. The Government will, if the entrant agrees, buy the machine of each type winning the first prize, the designs to remain the property of the manufacturers. The maximum prices payable under this head will be:—

Small type.	Large type.
£4,000.	£10,000.

38. The following prizes are offered:—

Small type.	Large type.
1st prize, £10,000.	£20,000.
2nd prize, £4,000.	£8,000.
3rd prize, £2,000.	£4,000.

39. Entries to close December 31.

RULES.

Seaplanes.

1. A competition will be held on March 1, 1920, with the object of ascertaining the best types of float seaplanes or boat seaplanes in which it will be safe to travel, and in particular to be capable of alighting on and rising from land as well as water.

2. Each machine entered for the competition will be provided with seating accommodation for four persons exclusive of the crew.

3. Machines and engines must have been designed and constructed within the British Empire. This rule will not apply in the case of such secondary equipment as ignition system, carburettors and instruments.

4. Machines to fulfil all conditions required for a certificate of airworthiness, and to carry parachutes and lifebelts for all persons for whom accommodation is provided, including the crew. The boat or floats must be so sub-divided that if perforated in any one part each float still remains positive buoyancy.

5. Each machine must be capable of flying level at or above a speed of 80 knots with full load at sea level, and must also be capable of flying level at or below a speed of 40 knots with full load at sea level.

Machines must be capable of climbing not less than 350 ft. per minute in the first minute.

6. Alighting and Getting-Off Tests

(a) Getting-off test (sea).

Machines will be required to take off with full load, and clear an obstacle 25 ft. above sea level in a distance not exceeding 300 yds. from a position of rest.

(b) Alighting test (land).

Machines will be required to land on a smooth aerodrome over an obstacle 25 ft. in height and to come to rest in a distance not exceeding 400 yds., measured in a straight line from the point where the obstacle is crossed. For this test machines will be required to carry full load less 50 per cent. total and oil.

(c) Getting off test (land).

Machines will be required to take off a smooth aerodrome with full load and clear an obstacle 25 ft. in height in a distance not exceeding 400 yds. from a position of rest.

(d) The above tests are to be made in still air, which for the

purposes of this competition will be regarded as any wind velocity not exceeding 5 statute miles per hour.

(e) During landing the machine is not to side-slip nor to turn after reaching the obstacle until it is on the ground. Once it has touched the ground the machine may turn in any direction.

(f) No braking device operated by the engine may be used during landing.

(g) Any landing or taking off gear used must be integral with the machine.

(h) No landing apparatus may be used that in the opinion of the judges would be liable to cause undue damage to an aerodrome.

(i) In test (a), (b) and (c) above, machines will be allowed four attempts, of which two must be successful.

7. Test of Reliability in Flight

(a) Each machine must carry out a flight of five hours at a speed through the air of not less than 70 knots, starting with full load.

Pilots may be changed during this flight.

8. Mooring out Tests

(a) Fair weather. Each machine will be moored to a buoy by its own crew, and using its own mooring tackle (other than the buoy and its moorings) for a period of 24 hours, during the first 23 hours of which time it will be left unattended. The crew will not be allowed on board to pump out the bilges at any time during this test except with the permission of the judges in case of emergency.

At the conclusion of the 24 hours period the crew will be allowed on board; the machine will be got under way by its own crew and under its own power, and will be required to carry out a short flying test within a period of one hour from the conclusion of the 24 hours period.

The test will be carried out under fair weather conditions. Marks will be allotted for rapidity in getting under way.

Moderate weather. Each machine will be moored to a buoy for a period of not less than 12 hours, unattended, under the following conditions:—

Locality—Roadstead sheltered from the open sea.

Wind—From 4 to 6 on the Beaufort Scale.

Marks will be allotted for the general condition of the machine at the conclusion of this test, and its behaviour during the test.

In both the above tests the ordinary average tidal currents existing round the coast of the British Isles may be experienced.

9. Rough water getting off and alighting test.

Each machine will be required to carry out a test of getting off and alighting on disturbed water, which in the opinion of the judges constitutes a moderate sea. The condition in any case will not exceed state 4 in the sea disturbance scale. (Waves under 4 ft. in height.)

10. Machines will be required to carry out a test of being towed in a moderate sea as defined in para. (9) in a circle of approximately $\frac{1}{2}$ mile radius.

11. Each machine must make a figure of eight course round two buoys 100 yds. apart, and within a rectangle measuring 200 yds. by 100 yds. in a wind not exceeding 15 m.p.h., the sea to be smooth and the tide at slackwater.

12. Each machine must be capable of moving on the water, under its own power for a period of at least 30 minutes and at a speed of not less than 10 knots and not greater than 20 knots.

13. Each machine will be required to carry an anchor and sea anchor, as well as its own mooring tackle, and to anchor on good holding ground with its own gear and remain fast in a wind of 10 m.p.h. and with tidal current not exceeding 3 knots.

14. In a machine having two or more engines, the stoppage or retardation of one engine must not cause the machine to get out of control.

15. Machines must be capable of flying at cruising speeds for 3 minutes without the use of any control or stabilising devices. Controls may be locked during the test.

16. Machines, in the round flying position, must take up and maintain a gliding angle, when the engine or engines are cut off without the use of any controls or stabilising devices.

17. After stalling (i) machines must be capable of recovering flying speed and complete control without a loss of more than 500 ft. of height.

18. Machines must be capable of being started from the cockpit or cabin, without undue muscular exertion.

19. (i) In order to be eligible for prizes machines must fulfil the conditions and carry out the tests laid down in paras. 2 to 18 inclusive. Marks will be awarded for soundness and

quality of construction, for general features, for general behaviour afloat, and for exceeding the specified requirements in Rules 5 and 8 (a).

20. (2) Soundness and quality of construction will include:—

(a) Fire protection, including use of self-sealing tanks, position of tanks (from the point of view of safety from fire in event of a crash); fire-fighting appliances and accessibility of same.

(b) Reliability of petrol, oil and water systems, and facilities for seeing if all tanks are full.

(c) Durability of petrol, oil and

(c) Durability of machine, including propeller (any advantages due to metal construction may be taken into account).

(d) Simplicity of design and accessibility of parts.

(e) Absence of vibration in the machine.

(f) Ease of repair, especially in regard to the hull or floats.

21. (3) General features will include:—

(a) Efficiency and ease of control.

(b) Unrestricted field of view to the point for the pilot.

(c) Silence as affecting occupants of the machine.

(d) Comfort generally, including warmth.

(e) Self-starting devices.

(f) Convenience of mooring and anchoring arrangements.

(g) Method of wind screening adopted.

(h) Convenience for use of instruments.

(i) Freedom of entering and exit for occupants.

(j) Bilge pumping arrangements.

22. Behaviour afloat will include:—

(a) Stability at rest.

(b) Water stability at all speeds.

(c) Minimum spray at all speeds.

23. Marks will be allotted for exceeding the minimum high speed and flying less than the maximum low speed.

24. The judges will have regard to the method of fitting parachutes, and especially to the means of exit by parachute afforded to the occupants, and will allot marks for the same.

25. Marks will not be given on account of the number of engines installed.

26. The following will be the allotment of marks:—

Soundness and quality of construction (Rule 20)—

Sub-para. (a) 8.

(b) 8.

(c) 6.

(d) 6.

(e) 4.

(f) 4.

Maximum total, 36.

General features (Rule 21)—

Sub-para. (a) 6.

(b) 6.

(c) 6.

(d) 5.

(e) 5.

(f) 5.

(g) 3.

(h) 3.

(i) 3.

(j) 3.

Maximum total, 45.

Behaviour afloat (Rule 22)—

Sub-para. (a) 6.

(b) 6.

(c) 6.

Maximum total, 18.

High speed (Rule 5)—

For each knot in excess of required minimum $\frac{1}{2}$

Low speed (Rule 5)—

For each knot below the required maximum 1

Mooring out test (fair weather) (Rule 8 (a)).

For each complete 5 minutes less than the hour allowed from the completion of the 24-hour period, to the moment when the machine leaves the water 1 mark.

Mooring test in moderate weather (Rule 8 (b)).

For behaviour of machine during test .. Maximum marks, 5

For condition of machine at end of test Maximum marks, 5

Method of fitting parachute (Rule 24) .. Maximum marks, 5

27. With reference to Rule 6 when carrying out alighting and getting off tests, machines will start with the load of petrol and oil specified, and will be allowed to fly for 20

minutes. If they have not carried out their tests by the end of that period they must alight and fill up again.

28. The type of propeller used on any machine must be the same for all the tests.

29. Full load will include :—

Instruments as under :—

Revolution counter.

Aneroid.

Air speed indicator.

Compass.

Watch.

Turn indicator.

Bearing plate.

Sextant.

Oil pressure gauge (when necessary).

Air pressure gauge (when necessary).

Radiator thermometer (when necessary).

Petrol and oil sufficient to fly 450 nautical miles at 1,000 ft.

In addition a load of 1,000 lbs., to include passengers if carried and lifebelts and parachutes, but not including crew or any gear specified in Rules 8 (a) and 13.

30. Petrol and oil for the tests and as far as possible accommodation (at owner's risk) for the machines will be supplied free by the Government.

31. The judges shall have the right to disqualify any machine which is very seriously defective in any respect.

32. The judges shall have the right to put up a service pilot to fly any of the machines, should they consider it desirable to do so, at Government risk.

All tests will, however, be carried out by the entrant's pilot.

33. During or on completion of any flying test, if it is necessary to effect any repairs to the machine after alighting, it will be considered to have failed in that particular test.

This does not apply to cases where the machine is by the judges' instructions being flown by a pilot other than the entrant's pilot.

34. An entrant may enter more than one type of machine.

35. If a machine is wrecked during the competition it may, at the discretion of the judges, be replaced by another, but the replacement machine must carry out the whole programme of tests.

36. The decision of the judges shall be final in all matters affecting the competition.

37. The Government do not accept any liability in respect of accidents during the competition, whether resulting in injury to personnel or damage to the machine (except as specified in Rule 32).

38. The Government reserve the right to adjourn the competition.

39. The Government reserve the right to withhold any or all of the prizes if, in the opinion of the judges, no real advance on existing designs is shown.

40. The Government will, if the entrant agrees, buy the machine winning the first prize, the design to remain the property of the manufacturer. The maximum price payable under this head will be £8,000.

41. The following prizes are offered :—

1st prize, £10,000.

2nd prize, £4,000.

3rd prize, £2,000.

42. Entries to close December 31.

CIVILIAN FLYING

BLACKPOOL

FLYING has been as busy as ever, for the Lancashire Wakes are in full swing. The climax takes place this week when the Oldham holidays are on. The five-seater Avros as usual did the bulk of the work.

One of the five-seaters, flown by Capt. Tully, A.F.C., has been temporarily equipped as a repair plane. An engine was urgently wanted at Southport. It would have taken the best part of a day to send it by road, and probably by goods train it would have taken a week. So the engine and stand were fixed up in the five-seater and flown across the Ribble in ten minutes. The cost of transport was in the neighbourhood of £2, as against £5 for the hire of a lorry.

SOUTHPORT

At Southport itself, where the Sopwith Aviation and Engineering Co., have the sole concession for making flights, their team of one "Dove" and three "Gnu" machines have been kept busy. With these machines Mr. King and Mr. Clapham have taken about 1,000 passengers during the past seven weeks.

The Avro machines at Birkdale have also been well employed. One little job of work last week was to run across to Blackpool and bring up a passenger who wished to catch a certain train from Southport. A taxi would have taken four hours, but the Avro went there and back in 15 minutes, and that in spite of pouring rain and thick mist.

In the Air Ministry list of aerodromes Southport is shown as unsuitable for landing at high tide. We understand, however, that the expanse of sand is so wide that there is plenty of room to land even when the tide is up.

MORECAMBE AND FLEETWOOD

Lieut. Macrae, M.C., flies an Avro twice a week at Fleetwood, spending the rest of his time at Morecambe, where he has been kept busy. Every day he flies backwards and forwards from Scale Hall, Lancaster, where he reigns in solitary glory over the Government Bessoneaux and landing grounds.

MANCHESTER—SOUTHPORT AND BLACKPOOL DAILY SERVICE

THE AVRO service between these towns has run daily since the middle of May. The service is each way, and it is claimed

(notwithstanding certain recent statements to the contrary), to be the first regular flying service run on civilian lines in the country. The time-table, which is published in the Manchester railway guides, is as follows :—

Leave Blackpool .. 12 noon	Leave Manchester .. 2 p.m.
Arrive Southport .. 12.15 p.m.	Arrive Southport .. 2.30 "
Arrive Manchester .. 12.45 "	Arrive Blackpool .. 2.45 "

NOTTINGHAM

THE Air Ministry, having refused, probably wisely, to license the ground in the centre of the town for the proposed flying week, arrangements are being made by the Avro people for an alternative scheme in the middle of September. It is possible that a combined Nottingham and Derby passenger service may be run as a missionary effort, as neither of these great industrial centres have seen much flying, and neither of them have started suitable civilian aerodromes.

ISLE OF MAN

LIEUT. MOXON, flying on probably the most difficult aerodrome in the North, continues to do good business. His machines are stationed on the grassy portion of the promenade, opposite Little Switzerland. He has started another Avro aerodrome at Ramsay where the flying conditions are very much better. This has been licensed and should produce good results.

BRIGHTON

DURING the week, in spite of very indifferent weather—no flying was possible on the 19th and 20th inst.—38 flights were made aggregating 11 hours 20 mins. In all 88 passengers were taken up. On the 17th Mr. T. W. Best, of Boston, U.S.A., with his niece, flew across to Swanage, and returned after tea.

CAMBRIDGE

SEVERAL exhibition flights have been made recently by the Cambridge School of Flying at their aerodrome at Hardwick, and they have proved very popular. Capt. R. Birkbeck, D.F.C., is the pilot, and he has put up some very good shows on his Avro.

Dunkirk's Ordeal

At the ceremonial conferring of the Legion of Honour on Dunkirk on the afternoon of Sunday last, President Poincaré mentioned that Germans had bombed Dunkirk 172 times from the air, not to mention four shelling from the sea and 34 attacks by the long-range gun concealed in the dunes.

Utilising Aircraft in Canada

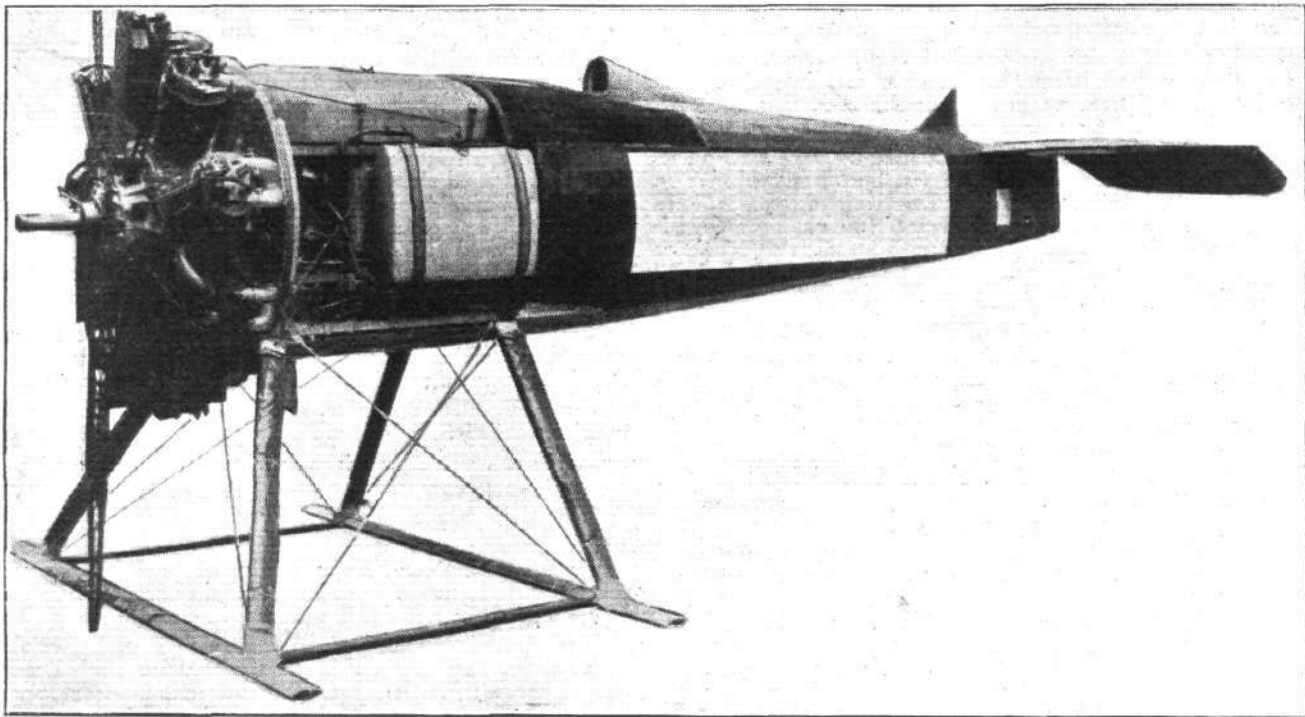
THE latest use suggested for seaplanes in Canada is in connection with the whaling industry, although precise details of the proposal are not to hand. In the meantime, it is understood to be the view of officers of the Forestry Service in the Province of Quebec, that aeroplanes are most effective in guarding forests against fire.

THE SOPWITH "SCHNEIDER CUP" MACHINE

As the firm who won the Jacques Schneider Cup at Monaco in 1914, special interest attaches to the machine entered by the Sopwith firm for this year's Schneider race, which is to be held at Bournemouth on September 10. It will be remembered that the race of 1914 was won by Mr. Howard Pixton, who was flying a small Sopwith tractor seaplane of the twin-float type. The machine, in a general way, was not unlike the little land tractor "Tabloid," except that, of course, she was fitted with floats in place of the wheels. Later on the "Sopwith Schneiders" were called upon for work of a much more serious character, and during the earlier part of the War these machines did a tremendous amount of good work in the R.N.A.S. The race of 1914 was over a distance of about 150 miles, and was covered by Mr. Pixton on the Sopwith in 2 hours 13½ secs. The next best time was made by Burri on an F.B.A. flying boat, which completed the course in 3 hours 24 mins. 12 secs. As already announced, this year's race will be held over a distance of about 200 miles, the course being from Bournemouth to Swanage, thence to Christchurch, and from there back to Bournemouth. The

As regards its construction, the Sopwith machine follows usual Sopwith practice. Its *fuselage* is the usual wood girder, wire-braced structure, but a superstructure of light stringers has been added so as to give the *fuselage* a good streamline form. The machine, it will be seen from the accompanying photograph, has very clean lines, and everything has been done to reduce head resistance. Thus as regards the tail planes, the vertical fin grows out of the body, so to speak, although it does not form an integral part of the *fuselage*, and the rudder continues the streamline of the body, being very thick as regards its lower portion. No external crank levers are fitted to the rudder, and the elevator crank lever is placed centrally, where it is covered by the detachable vertical fin. A notable feature of the machine is that no tail float is fitted. This in spite of the fact that the two main floats are not extraordinarily long.

The accompanying photograph, taken while the machine was being erected at the Sopwith works at Kingston, does not show the floats in place, but it gives a very good idea of the simplicity of the undercarriage structure, which consists



THE SCHNEIDER RACE: The *fuselage* and undercarriage struts of the Sopwith machine, which is now nearing completion at the Sopwith works at Kingston. The engine is a 450 h.p. Cosmos "Jupiter."

length of the course is approximately 20 miles, so that competitors will be called upon to cover the course ten times. This should give the spectators a very good view of the machines, not only as they pass the turning points, but from the cliffs at Bournemouth the machines should be well in view the whole time. There can be little doubt that as regards speed the machines entered this year will be greatly superior to those of 1914, and, although the distance is longer, the times should be considerably shorter than the two hours taken by Pixton in 1914.

The machine entered by the Sopwith firm for this year's Schneider race is a small tractor biplane of the twin-float type. It is fitted with a Cosmos "Jupiter" radial engine of about 450 h.p. Judging from estimated figures of performance, and from data of wing loading and load/h.p., which figures we are not, unfortunately, permitted to publish this week, the Sopwith should show an astonishing turn of speed. The machine, as already mentioned, is a small single-seater, with only one pair of struts on each side. The planes are given a slight backward stagger, although this is so slight as to be almost unnoticeable.

of four streamline steel tube struts, cross-braced with Rafwire. The two floats are simply bolted to the transverse struts joining the chassis struts.

With regard to the floats themselves, these are of the plain non-stepped type. That is to say, there is no actual step, in the ordinary sense of the word, but from a point slightly aft of the centre of the floats the bottom is perfectly flat and slopes upward towards the heel. The nose of the floats is cut off at a slight angle to the transverse axis of the machine. In general it may be said that the Sopwith Schneider 'bus has a very strong family resemblance to previous Sopwith machines, and it is certainly not a "freak" machine in any way. This is not meant to indicate that she will not be fast, however, for being quite a small light machine, and having a light engine of 450 h.p., she cannot very well help being fast, but that as regards her general design and construction she is quite an orthodox seaplane of the small type. Sopwiths were the first to show the world that a biplane can be made fast, and their present machine may be expected to uphold the reputation, especially as it will be piloted by Mr. Hawker.

City Church Restored after Air-Raid Damage

THE historic church of St. Edmund the King and Martyr in Lombard Street, which was a good deal damaged in one of the air raids, is to be reopened on Wednesday, October 1. The Lord Mayor and Sheriffs will attend in state and the Bishop of London will preach.

Disposal Board's Exhibition to be Moved

As the Agricultural Hall, Islington, will shortly have to be vacated, the exhibition of tools and other miscellaneous stores arranged by the Disposal Board of the Ministry of Munitions has had to seek a new home. Earl's Court has been selected and the opening date will be announced later.



The E.L.T.A. SHOW

(Concluded from page 1118)

The Dutch Exhibits

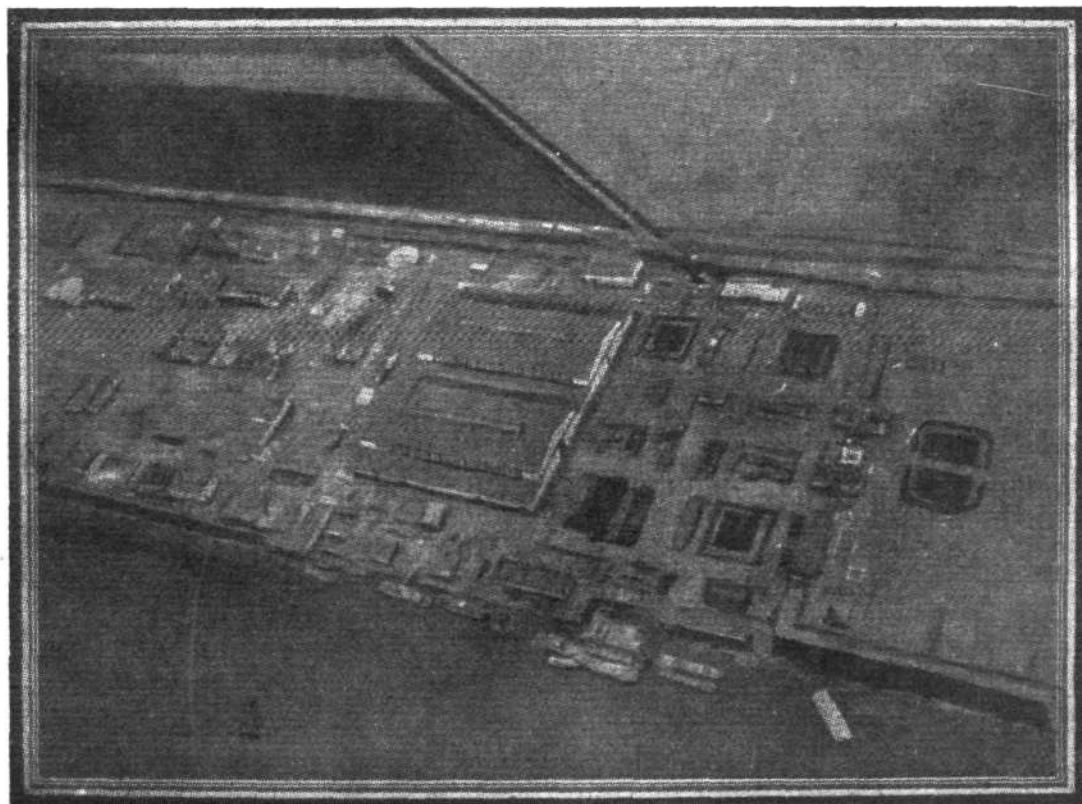
APART from the machines exhibited by the Dutch Military and Naval air services, Holland is represented at the E.L.T.A. by three firms: The Nederlandsche Vliegtuigen Fabriek (Fokker), the Nederlandsche Automobielen and Vliegtuig Fabriek "Trompenburg" (Spyker) and Van Berkels Patent.

THE FOKKER STAND

Herr Fokker, having relinquished his German naturalisation, obtained, one presumes, for business purposes during the War, and become a Dutchman once more, was handicapped by not yet having had time to build works of his own in Holland since the armistice while German built machines, of any design, were not permitted. The three machines exhibited on his stand, while not built by Herr Fokker, although to his designs, were not, we learn, made in Germany, as has been hinted in certain quarters, but were, we are informed by the gentleman in charge of the Spyker stand, made for Herr Fokker by the Spyker works at Trompenburg. Three machines are exhibited, none of which show any striking departures from their prototypes built in Germany during the War, and which have been fully dealt with in *FLIGHT*. One of the machines is a little parasol monoplane, with 110 h.p. Clerget (Dutch) engine. It has the usual type Fokker cantilever wings, supported by four struts on each side. It is a single seater, and judging it by a similar machine flown with great skill by Lieut. Versteegh, has a very good performance.

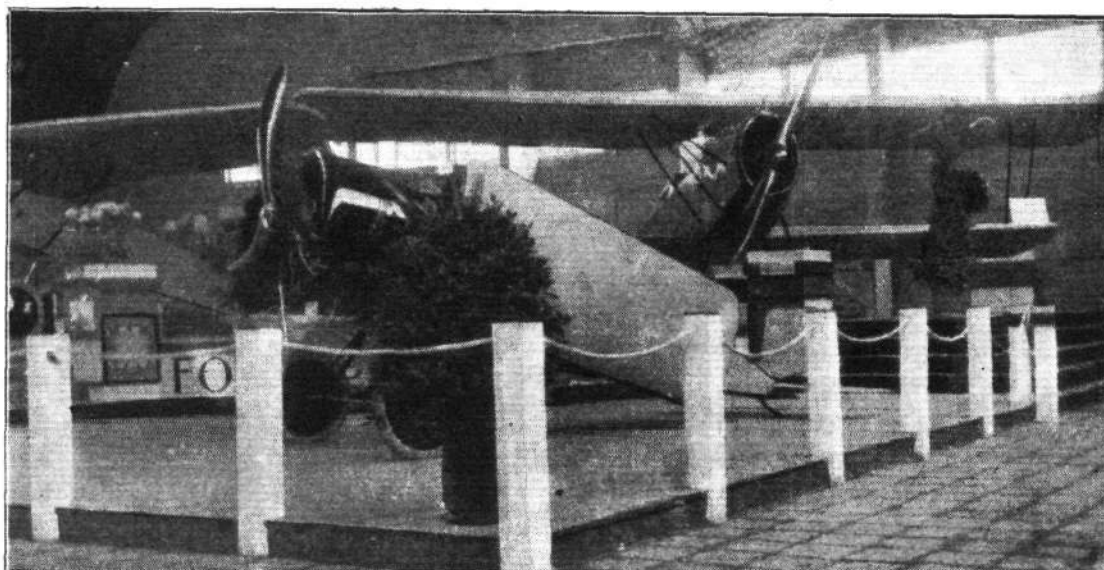
The second machine on the Fokker stand is a little single-seater biplane with 80-90 h.p. Thulin (Swedish version of the Le Rhone) engine. It is designed as a sporting biplane, and has its wings placed on the fuselage top and bottom respectively, the pilot sitting in an opening in the top plane. In order to facilitate housing and transport the wing bracing is arranged so as to be quickly dismantled, when the wings, by means of suitable hooks, can be placed alongside, and supported by brackets on the fuselage. In a general way this machine is very similar to some of the earlier War machines produced by Fokker in Germany, but with, probably, a smaller engine in view of the purpose for which this machine is intended.

Finally there is on the Fokker stand, a two-seater biplane which has more than a family resemblance to the German Fokker type D VII. It has the same general shape and construction of fuselage, the same thick tapering wing section, and the same N form of interplane struts, without external wing bracing. One difference one notices, however, in the attachment of the lower wing to the fuselage. Whereas in the D VII the bottom plane was in one piece, resting in a recess in the bottom of the fuselage, in the show machine the bottom plane is made in two halves, bolted to the sides of the fuselage. The pilot occupies the front seat, while the seat usually occupied by the gunner is now reserved for the passenger, who is protected from the wind by a glass wind screen, while above his head is a collapsible hood made of fabric. A front radiator of elliptical shape suggests that the



A Bird's - Eye
View of the
E.L.T.A.: The
two large sheds
in the centre of
the picture con-
tain the exhibits,
while in front and
behind them are
office buildings,
etc., and the Fair
grounds.

The Fokker Stand: On the left may be seen the port wing of a parasol monoplane, while in the centre is a sporting two-seater, shown with the port wings folded for transport. In the background, on the right, is a Fokker two-seater biplane, similar to the German Fokker type D.VII. "Flight" Copyright.



engine is a water-cooled one, but as to make we were unable to obtain any information from the gentleman in charge of the stand. The front of the body was hermetically sealed so as to make it impossible to discover the contents—if any—of the engine housing, and the young man in charge naïvely informed us that he did not know with what engine the machine was fitted! This may be taken to mean that either no engine was fitted, or that, if there was one fitted, it was a German one.

THE SPYKER MACHINES.

Of the aeroplanes of Dutch design and construction the two Spyker biplanes exhibited are perhaps the neatest. There is about both types a certain cleanliness of outline which is very pleasing to the eye. Yet as regards their design and construction everything is simple and along common-sense lines.

One of the Spyker machines is a little single-seater sporting biplane, fitted with a 130 h.p. Spyker-Clerget engine. It follows standard practice as regards its general lay-out, having a single pair of inter-plane struts on each side. The wing bracing is in the form of flat steel bands, not of the alleged stream-line section now used so extensively on our own machines, but truly plain flat steel bands, fitted in duplicate side by side and in surface contact with one another. The terminals for these flat steel strips are extremely neat, and would appear to be a good deal less expensive to make than are our own neat but super-refined trunnion terminals for R.A.F. wires. The plane struts are of wood, stream-line section. Upper and lower planes are of equal span, and both are fitted with ailerons.

The fuselage is of the monocoque form of construction, and would appear to be of very good shape as regards air resistance. The controls are of standard type, the stick terminating at the top in a very convenient handle. A very complete set of instruments is carried on a neat instrument board in front of the controls. The top plane centre section is provided

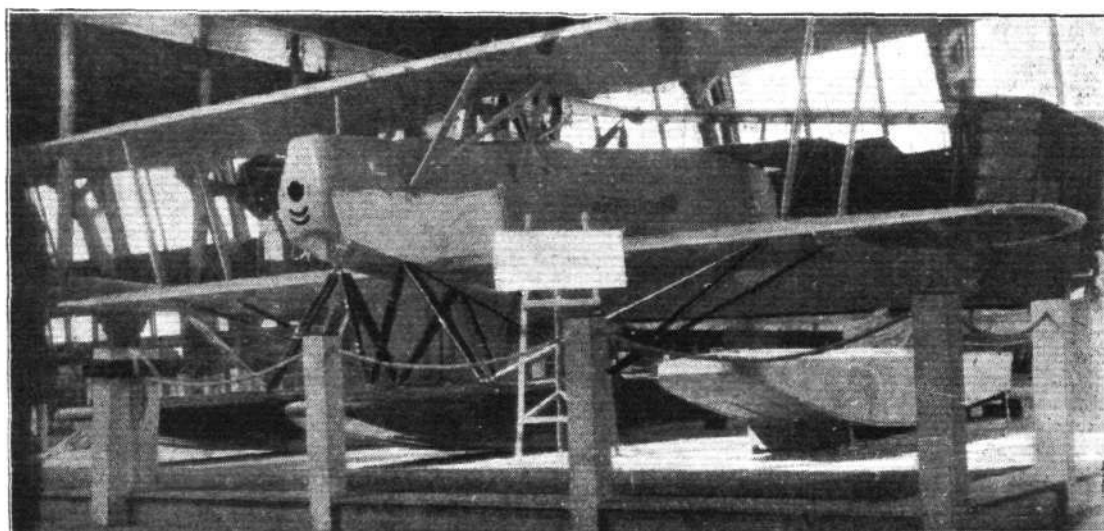
with windows so as to improve the pilot's view in an upward direction. A simple type of Vee undercarriage, having wood struts, is fitted, the axle being divided in the centre. In its show paint—the planes are yellow and the fuselage blue—the little Spyker scout looks extremely well, and has, we believe, a very good performance.

The second machine exhibited on the Spyker stand is a two-seater tractor, designed for school work. It is fitted with an 80-90 h.p. Thulin (Swedish) engine of the Le Rhone type. This machine, being intended for instruction work and carrying two, is somewhat larger than the single-seater, but is also a fairly small, and very pleasing, aeroplane. It has two pairs of struts aside, and the same common-sense design is noticeable in all its details. This machine has not, however, a monocoque fuselage, but one of the usual wood girder type, with struts and cross members of T section, and wire bracing. As shown, the rear part of the fuselage was uncovered so as to show the internal construction and workmanship, both of which were very good. In this machine the lift bracing is in the form of standard cables, and the manner of attaching the lower plane to the fuselage is very neat, being effected by a form of union, not unlike that employed on some of the earlier German Albatros biplanes.

The undercarriage is of the Vee type, with very wide track, and the lower apices of the two Vees are arranged in a manner not unlike that of some of the Sopwith undercarriages. That is to say, there is a cross piece some little distance up, and a plate with guides for the axle. Needless to say, as the machine is intended for instruction it is fitted with dual control. In view of the comparatively low power the machine has a good performance, and we are informed that she has been looped, which is not bad for a two-seater with only 80 h.p.

The Spyker firm also shows, in addition to one of their cars, a rotary engine of the Clerget type, but built by Spykers, which is rated at 130 h.p. Judging from an external examination it is a very fine job, the engine being well finished and

Van Berkels Patent: On this stand is shown a twin-float sea-plane without inter-plane wing bracing, the lift being taken by tubes from the floats. This machine was shown minus engine. "Flight" Copyright.



the workmanship, as far as it was possible to judge, being very good.

THE HOLLANDSCHE MARINE LUCHTVAARTDIENST, or Dutch Naval Air Service exhibits on its stand a twin-float seaplane, of the Friedrichshafen type, we believe. It is fitted with a Benz engine, and does not present anything of unusual interest. The amount of strutting to the two stepped floats

nacelles, developing, we were informed, 130 h.p. each. The machine is of the fuselage type, with the three occupants seated one behind the other. The middle seat is occupied by the pilot, while in the nose of the fuselage is seated a photographer, the rear seat being taken by the wireless operators. The machine is shown complete with its full equipment of guns and bombs, the latter being carried on bomb racks.



SOME DUTCH MACHINES AT THE E.L.T.A. AERODROME: 1. A Spyker school machine; 2. A couple of Fokker biplanes, one with rotary and one with stationary engine; 3. A cabin machine which was known as a Fokker, but which was recently an L.V.G.; 4. The Fokker monoplane on which Lieut. Versteegh does some very clever flying

appears excessive, as is so often the case with German seaplanes, and must, one would incline to think, offer an unnecessary amount of air resistance.

THE NEDERLANDSCHE REGEERING, L.A. or Military Air Service, exhibits, a very neat twin engine machine, not unlike the later types of twin-engine Caudrons. It has two engines, placed on the wings in neat stream-line

underneath the fuselage. The machine was, we understand, built to official designs at the military aerodrome at Soesterberg.

The only other Dutch machine exhibited is that built by VAN BERKELS PATENT, HOLLAND.

This is a twin-float seaplane, shown at the exhibition without engine, but intended, we believe, for a Mercedes. The fuselage



At the E.L.T.A. Aerodrome : One of the Avros which are kept busy all day and every day carrying passengers. Note the registration letters on the fuselage

is built up of a light framework covered with three-ply wood. The ply-wood covering of the rear portion of the fuselage is continued outwards over the tail plane, which latter is built integral with the body. The fuselage is very deep at the rear, where as a matter of fact it performs the function of a fin, no other vertical fin being fitted. As the tail plane is at the top of the fuselage the whole tail looks somewhat unusual, especially as the rudder has its balanced portion projecting below the stern instead of, as in the majority of machines, above it.

The two floats, which are of the single step type, are flat-bottomed as regards their front portion, but to the rear of the step the bottom gradually changes from flat to Vee bottom, finally coming to a point at the heel of the float. The construction is very similar to that of the fuselage, brass screws and nails being used throughout. The floats are, of course, fitted with water-tight bulkheads, easily detachable inspection doors being provided in the deck for examining the interior.

The wing bracing of this seaplane is unusual, in that there is only one pair of struts on each side, in spite of the comparatively large span. The upper plane is of slightly greater span than the bottom one, and the inter-plane struts slope outwards to obtain the best load distribution on the respective spars. The lift and landing loads are taken by tubes sloping from the floats outward to the lower surface of the bottom plane at the points where occur the inter-plane struts. As the float strut formation is in the shape of a letter M, as

seen from in front, and having a transverse horizontal strut between the floats, the outward component of the lift pull on the sloping struts is transmitted to this horizontal strut, which is therefore in tension when the machine is flying, and probably in slight compression when the machine is at rest. We understand that this machine has not yet flown, but a speed of 155 km. per hour is estimated for her.

Another exhibit on this stand which attracts attention is a small 8-cyl. rotary engine of the two-stroke type. It was, we learn, designed by Mr. Kerner, of the technical staff of Van Berkels. Its chief feature is that, in order to avoid the trouble experienced in all two-stroke engines at certain speeds—either a mixing of the fresh charge with residual gases, or a waste of fuel through blowing part of the fresh charge out through the exhaust ports—a small piston disc is interposed between the fresh charge and the exhaust gases, thus preventing them from mixing, while at the same time being limited in travel so as to prevent the escape of the fresh gas through the exhaust ports. This piston disc is mechanically operated, but we were unable to ascertain the details of the mechanism. The Kerner engine is provided with external inlet pipes, and very large inlet valves are fitted in the cylinder heads. We understand that the engine has passed through satisfactory test runs, and it is claimed to develop 120 h.p. for a weight of 95 kgs.

The French Section

At the time of writing, the aircraft industry of our gallant ally France is represented by two machines only, a very ancient type of Caudron, and a military type Breguet, of the type used so extensively during the War. It is somewhat of a disappointment that French aviation is not more fully represented, and we trust that before the exhibition closes this will be remedied.

THE MESSAGERIES AÉRIENNES

which is a combine of the French firms of Blériot, Breguet, Caudron and Morane, show two machines. One of these is a type G 3 Caudron, which will be well known to all our readers. It has a le Rhone engine of 80 h.p., and is characterised by the usual short nacelle and open tail booms associated with the Caudron machines. It might be pointed out that it was on a similar machine that Poulet established a duration record of 16 hrs. 28 mins. in May, 1914. It has also been used very extensively for training purposes, and many of the French "Aces" have got their ticket on machines of this type. Incidentally this type of machine was, we believe, the first biplane to loop the loop, which it first did piloted by Chanteloup on September 17, 1913. The type, although many may be inclined to smile at it in these days, has therefore a long and honourable career behind it, and for landing on or starting from difficult ground it is probably unexcelled by any other machine. For instance, it may be recollected that it was on a machine of this type that the late Jules Vedrines landed on the roof of the Galleries



A FRENCH REPRESENTATIVE : The Breguet biplane, which arrived at Amsterdam by air. The machine, which has a 450 h.p. Renault engine, was piloted by the well-known pilot Roget, who had with him as passengers Lieut. Labouchere and a mechanic

Lafayette. Another similar machine is busy carrying passengers from the E.L.T.A. aerodrome.

The Breguet machine is a two-seater fighter of the XVII C 2 type, and is shown as such, with a full complement of machine guns, a very full one, in fact, for it carries, we believe, no less than five machine guns. The engine fitted is a 450 h.p. 12-cylinder Renault water-cooled, with the radiator placed in the nose of the fuselage. Perhaps the most remarkable feature of the Breguet is the wing bracing, which is so arranged as to have no inter-plane lift wires in the inner bay, the place of these being taken by wires running from the bottom of the undercarriage to the foot of the inter-plane struts. The landing wires in this bay run from the top of the fuselage to the base of the first pair of inter-plane struts. The lift bracing consists of stranded cables, while the landing wires are of the Rafwire type. The Breguet is credited with the following performance:—

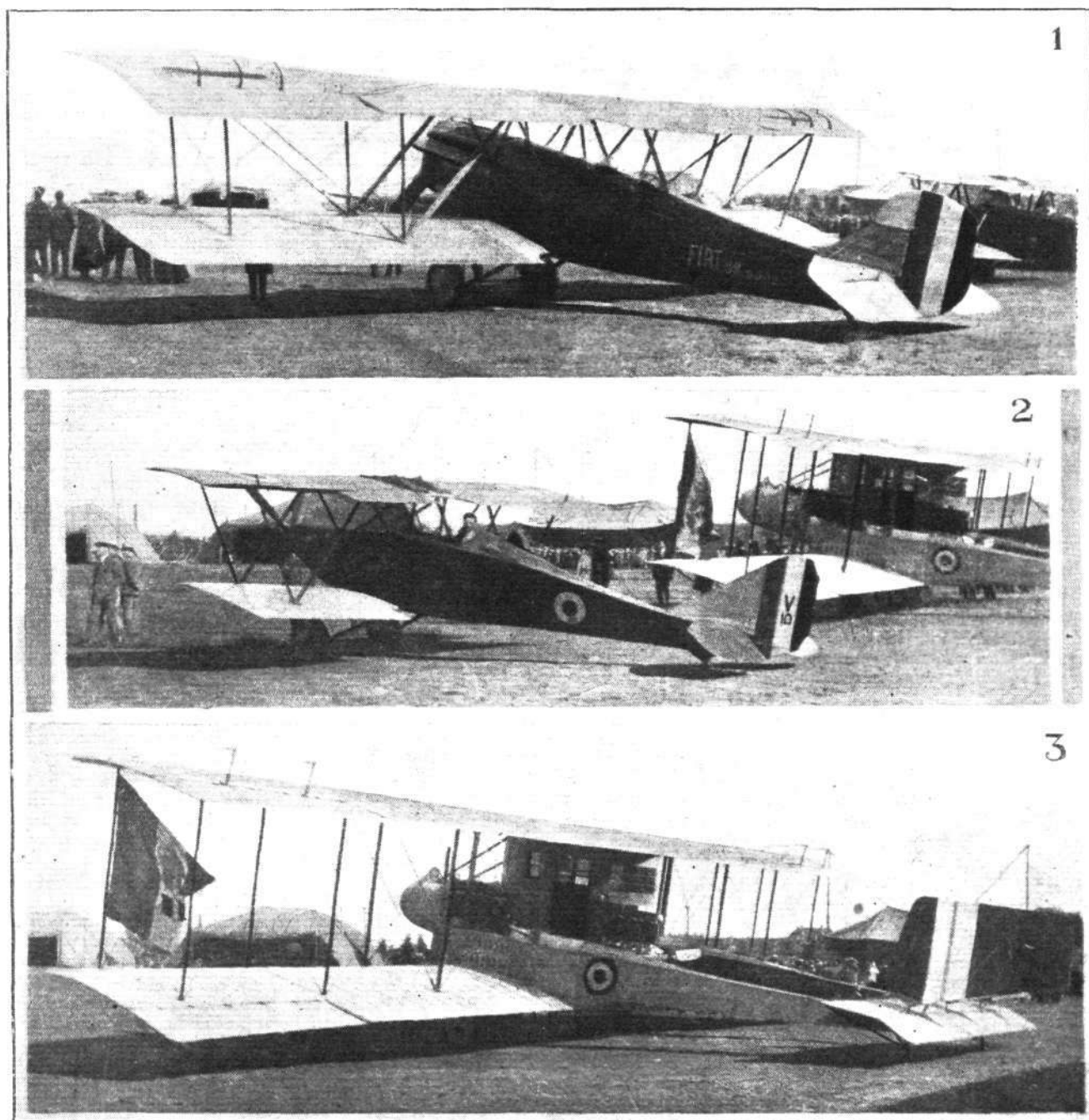
Climb	2,000 metres in 5 mins. 45 secs.
		4,000 metres in 14 mins.
		6,000 metres in 31 mins.
Ceiling	7,500 metres.
Speed—		
At ground level	221 kiloms. per hour.
At 2,000 metres	218 " "
At 4,000 " "	207 " "
At 6,000 " "	180 " "

Italy's Representative

At the actual exhibition Italy is represented by two machines only. One is the large Fiat biplane, on which recently Lieut. Brack-Papa flew from Italy to England, and which was *not* crashed in France on the return journey as stated in the daily press, and the other is a Caproni three-engined machine, turned into a commercial aeroplane by adding a cabin to the fuselage. A third Italian machine is, however, flying at the E.L.T.A. aerodrome—the little S.V.A. biplane with Warren girder wing bracing.

THE GREAT FIAT BIPLANE

Arriving from France by air, the Fiat biplane, on which Lieut. Brack-Papa flew from Turin to London recently, is now exhibited at the E.L.T.A. show. As the machine was described and illustrated in *FLIGHT* of July 24, 1919, no detailed reference to it is necessary here. It is a very large, single-engined two-seater, with a 700 h.p. Fiat engine of the 12-cylinder Vee type. The fuselage is of the ply-wood covered type, with the two seats arranged in tandem, the pilot in front. The control is of the wheel type for the ailerons. A very large petrol tank is placed between the engine and the pilot's seat. The radiator is placed in the nose of the fuselage, and under the bottom of the body, just behind the front chassis struts, is a small oil cooler of copper tubing. In order to reduce the air resistance of the 12 exhaust



THE ITALIAN REPRESENTATIVES AT THE E.L.T.A.: 1. The large F.I.A.T. biplane with 700 h.p. engine; 2. the S.V.A. biplane; 3. the Caproni three-engined biplane

"Flight" Copyright

pipes, each set of six is enclosed in a stream-line casing projecting outwards and downwards from the top of the cylinders.

The most interesting feature of the Fiat B.R. is, perhaps, the wing bracing, which is of a somewhat unusual type. The centre section struts are arranged as in the Sopwith 1½-strutter, i.e., the form of a letter W as seen from in front. The inner bay of the wing bracing has no lift wires, diagonal struts sloping from the top of the outer centre section struts to the base of the first pair of inter-plane struts, being thus in compression under lift loads. The outer bay of the wing truss is wire braced, the lift wires being in duplicate and enclosed in a stream-line aluminium casing, while the landing wires are single Rafwires. It might be mentioned that all the terminal connections of the wing struts and wires are enclosed in stream-line aluminium casings so as to reduce air resistance. As mentioned in our issue of July 24, the machine has a maximum speed of about 160 m.p.h., and her appearance at the E.L.T.A. aerodrome was hailed with delight by the visitors, most of whom had probably never seen a machine flying at such high speed. The Fiat did not, however, remain long at the aerodrome, but was put into the exhibition the day after her arrival.

THE CAPRONI BIPLANE

Another Italian machine which arrived at Amsterdam by air was the Caproni three-engined biplane, which made its first appearance above Amsterdam on August 7, when, after circling over the town for about an hour, it landed on the E.L.T.A. aerodrome, fortunately without coming to grief. The machine cannot by any stretch of imagination be termed a pretty one, the twin fuselages and straight, square-tipped wings giving it a somewhat ungraceful appearance. But it seems to fly very well, and does some fairly sharp banked turns, although at times it was observed to do flat turns which one usually associates with tendencies to spin. However, the Caproni does not appear to be troubled by flat turn, and at times they appeared to be chosen deliberately by the pilot when he wanted to turn quickly.

The three engines of the Caproni are Isotta-Franchini, the two outer ones being placed in the nose of the twin fuselages, while the third is installed in the rear of the central nacelle, where it drives a pusher airscrew. The front portion of the

nacelle projects far out in front, and here are arranged two cockpits in tandem. Slightly further aft a superstructure has been added which extends up to the top plane, and forms a cabin for the passengers. The machine carries 10 persons, and flies fairly fast with its three engines developing a total of a little over 700 h.p. The general arrangement of the Caproni will be clear from one of the accompanying photographs. Like the Fiat, the Caproni was also put into the exhibition building shortly after its arrival, and may now be examined on the Caproni stand.

THE S.V.A. BIPLANE

Although not strictly speaking at the exhibition, the little S.V.A. biplane is included here, as it is flying daily at the E.L.T.A. aerodrome, piloted by the Italian pilot Guglielmotti. This little machine is chiefly remarkable for its wing bracing, in which no wire bracing is employed. The struts are arranged in the form of a Warren girder, and the only wires in the system are the incidence wires. The 200 h.p. engine is perched high up on the front of the fuselage, and is totally covered in, the radiator being in the nose. In front the fuselage is of rectangular section, which gradually runs into a triangular section aft of the pilot's seat. From this point to the tail the fuselage is triangular, which gives it a somewhat weak appearance, and the tail plane may be seen to warp appreciably during flight. However, this does not appear to worry Guglielmotti, who does all the usual stunts on the machine, including spins. One very peculiar thing one noticed about this machine. In taking off its tail never leaves the ground, the machine travelling along at the angle at which it is standing at rest until sufficient lift is obtained. Until one becomes accustomed to it the sight of a machine starting in this manner is rather terrifying, as one is inclined to expect to see her stall as soon as leaving the ground.

THE ETCETERAS

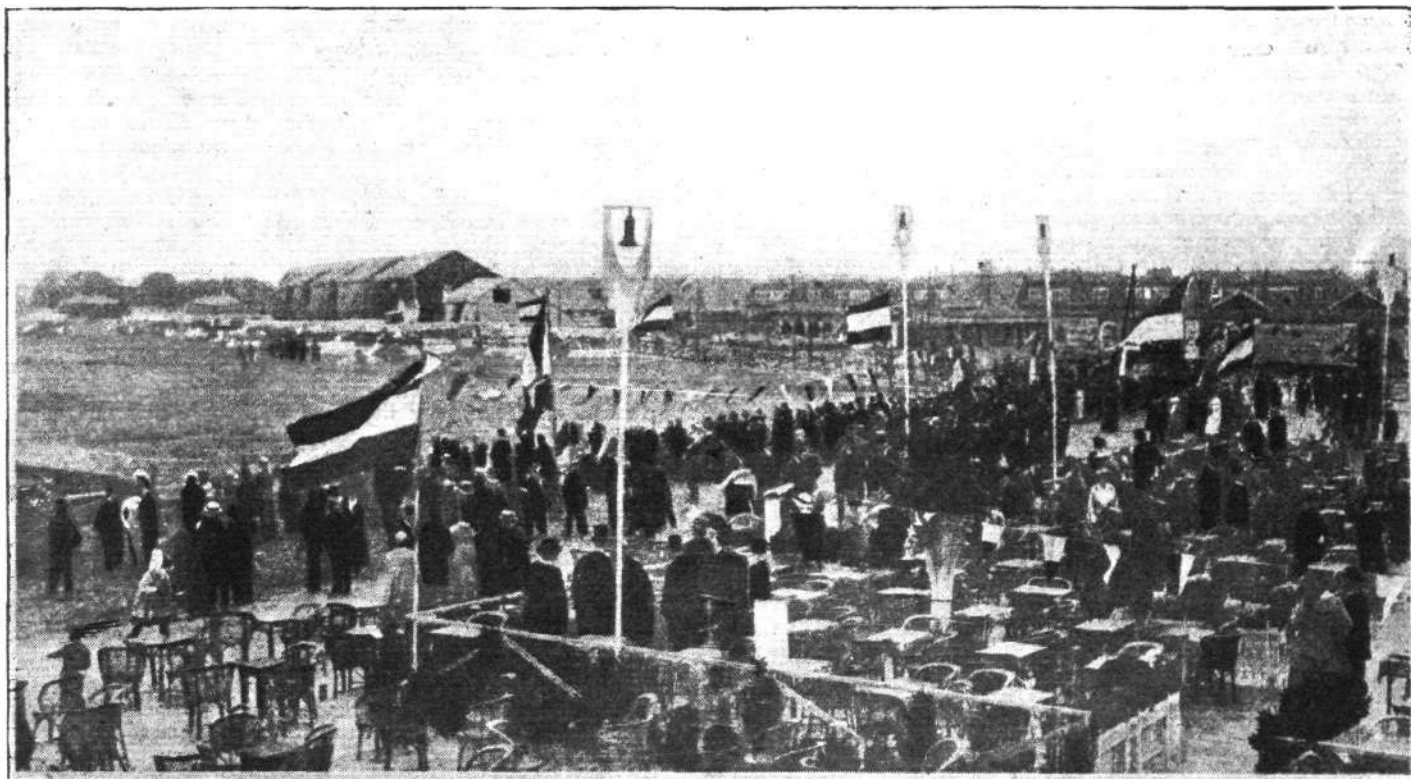
In addition to the firms showing complete machines, there is a vast number of firms, British and others, who exhibit accessories of all descriptions. It is patently impossible for us to mention every firm, and to attempt a complete catalogue of all the exhibits in the limited space at our disposal, and we are therefore perforce obliged to leave out many that deserve to be mentioned. Reference has already been made to a few aero engines, such as the Spyker-Clerget, the Thulin-le Rhones, and the Kerner two-stroke. At the time of writing, only one firm was represented in the aero engine section, the Gnome and Rhone, who were showing one 80 h.p. le Rhone and one 180 h.p. le Rhone, both 9-cylinder rotary engines. According to the official catalogue, several other engines were to be on view, but when we had a walk around to the stands in question, such as Anzani, Hispano-Suiza, Lorraine-Dietrich, etc., nothing was to be found on them except empty packing cases. However, by the time this appears in print it is to be hoped that the long-delayed engines will have turned up. Of British firms who are exhibiting at Amsterdam articles connected with the science and practice of aviation, apart from complete machines, mention may be made of the following:

THE BRITISH EMAILLITE CO., LTD.

The exhibits on this stand are partly by the above-mentioned firm, and partly by its affiliated Company, the General Aeronautical Co., Ltd. At the time these notes are written some of the exhibits have not yet arrived, but by the time this week's issue of FLIGHT reaches our readers the remaining exhibits will no doubt have reached the E.L.T.A., and be on view at the stand. As it was obviously impossible for the firm to exhibit full-size machines showing their doping schemes, a set of excellent models have been made, and are shown on the stand. These include three models of a B.E. 2 C, demonstrating the Emaillite Doping Scheme "X," one of which is finished with the "Nivo" green pigmented coverings, the upper plane with the glossy P.O.V. constituents of this colour, and the bottom plane with the matt nitro constituent. The second model is finished with glossy P.O.V. constituents, the upper plane with the standard khaki shade of the Air Ministry, and the bottom plane with the new "Nivo" green colour as now used on Government aircraft. The third model to which reference has been made is finished off with six varied colours, indicating a suitable series of shades for commercial aircraft. These colours are: Upper surface of top plane, rose pink; under surface of top plane, white; upper surface of lower plane, heliotrope; under surface of lower plane, pale green; fabric covering of fuselage, orange chrome; woodwork, "Nivo" green. All these colours are in the P.V.O. type of protective covering, providing a glossy finish. A fourth model demonstrates the Emaillite Doping scheme "B." The upper surfaces of this model are doped solely with the pigmented dope constituents of the scheme,



A CLEVER DUTCH PILOT: Lieut. Versteegh is very popular at the E.L.T.A., and handles a Fokker parasol monoplane exceedingly well, doing vertical banks, loops, spins, &c.



THE E.L.T.A. FLYING GROUND : A view of the enclosures and some of the tent hangars

while the lower plane is, in addition, finished off with the final protective varnish.

It is, of course, well known that the British Emaillite Co. have been successful in producing some very excellent doping schemes for airships, in addition to the aeroplane doping schemes. The current schemes specially designed for the outer covers of rigid airships are: Emaillite Airship Doping schemes "P," "R" and "R.A." A 6-foot model of the R34 is shown on the stand, and demonstrates the scheme "R." As this firm is also manufacturers of enamels and varnishes for general purposes, a series of panels is shown, indicating a very wide range of enamels and varnishes.

Of the items exhibited by the General Aeronautical Co., Ltd., mention may be made of a series of airscrews, including a D.H. four-blader, fabric sheathed and with the tips enamelled in the different alternative colours provided by the Emaillite Propeller finishing scheme, a G.A.C. licence "Regy" screw fabric sheathed and enamelled in camouflage green, and a G.A.C. licence "Regy" screw enamelled in white. Also a D.H. 9 propeller completely varnished with blades enamelled in grey. Various G.A.C. instruments are also shown, among others a 5,000 meter altimeter with black dial and figures engraved in white so as to give easy reading.

THE FARRINGTON PROPELLER AND ENGINEERING CO., LTD.

This firm, with which is affiliated the Aircraft Improvement Co., shows a series of airscrews, including a large airscrew for airship work, 17 ft. 6 ins. diam., a Rolls-Royce Eagle airscrew, four-bladed, finished with Farrington special lacquering process for resisting bad climatic conditions, and a 100 h.p. Mono-Gnome propeller, two-bladed. Small propellers, or more correctly speaking windmills, used for driving various signalling apparatus, are also exhibited, as well as a "Walker" propeller-boring jig which ensures that all the bolt holes in the propeller hub shall be true. At the time of writing, this stand was also awaiting the arrival of samples of fire-proof petrol and oil tanks.

THE IMPROVED LIQUID GLUES CO., LTD.

This firm is showing samples of glued joints made with the famous Croid glue, which is so well known in the aviation world that it would be difficult to say anything new about it. Croid is, of course, used cold, a great advantage in practice, and its damp-resisting qualities are known to all the aircraft industry.

THE MARCONI WIRELESS TELEGRAPH CO., LTD.

This stand is one of the most interesting in the exhibition, showing as it does a variety of wireless outfits, from the large field and aerodrome installations, to small compact transmission sets suitable for carrying on board aeroplanes. It is impossible for us to mention in detail all the exceedingly interesting wireless instruments on this stand, but reference may be made to a new set which had just arrived on the

stand at the time of our visit. This little transmission set was extremely compact and light, yet had a range of about 30 miles. It was so designed that the "box of tricks" containing the coils, valves, etc., can be mounted anywhere in the aeroplane, only the transmitter and the ammeter requiring to be mounted in the operator's cockpit. The amperage, by the way, is 1.5, and the whole outfit, in addition to being very handy and compact, is quite light, weighing, we should judge, less than 40 lbs., including generator. Direction-finding sets were also shown, illustrating the use of two different types of directional wireless: one in which the operator on board the aircraft works out his position according to the angle of certain ground stations, and the other by which ground stations obtain the angle of the aircraft and, having found that, send a message to the operator on board, giving him his position. Of the two methods, perhaps, the latter may be expected to become the more popular in commercial aviation, requiring as it does less skill on the part of the operator on board.

It should also be mentioned that a wireless station has been established at the E.L.T.A. by the Marconi Co., which is in touch with a number of wireless stations in France, Belgium and England. Any aircraft which is approaching the E.L.T.A. aerodrome, and is provided with wireless, can therefore find out beforehand the weather conditions at the time, the condition of the aerodrome, etc., which should prove of great value to aerial visitors to Amsterdam. Altogether, it is scarcely possible to overestimate the value of wireless, and the part it is bound to play in the development of commercial aviation, and as it is impossible for us to deal with this subject as it deserves in the limited space here at our disposal, we propose in the near future to publish a series of articles dealing with this important subject.

THE PALMER TYRE, LTD.

On this stand there is a very representative collection of Palmer aero wheels and tyres, covering a range from the small size wheels used on a motor scooter to the huge wheels, as tall as a man, used on the Handley Page V. 1500. The Palmer wheels are so well known that nothing remains to be said about them. Whenever aero wheels and tyres are mentioned there is one name which comes to mind instantly—Palmer.

R. S. WATLING AND SON, GREAT YARMOUTH, show a number of very fine specimens of the propeller builders' art, the airscrews shown being of excellent workmanship, with good long joints in the case of the four-bladers, and very highly finished off.

GEO. WILLIAMS AND CO.,

of Alfred Place, Tottenham Court Road, have on view a very extensive collection of their "Adastra" clothing, and have, we understand, established an agency in Holland during the exhibition.

THE E.L.T.A. AERODROME

As already mentioned, one of the special attractions of the aircraft exhibition in Amsterdam, and one not usually found in connection with aero shows, is formed by the aerodrome adjoining the show. The presence of this aerodrome has meant not only a greatly increased attendance at the exhibition, but also that exhibitors have been able to fly their machines right to the doors of the exhibition, as it were, an opportunity of which nearly all the exhibiting firms have availed themselves. A further advantage of running an aerodrome in conjunction with the show is that firms are able to bring to the notice of the public a far greater number of their different types than would, for lack of stand space, have been possible in the exhibition itself.

The countries represented by machines on the aerodrome include Britain, France, Holland, Italy and Germany. This refers to a week or so ago, but as many of the aerial visitors to the E.L.T.A. aerodrome are of a migratory nature it is impossible to state definitely who is there and who is not. However, going back a week or so, as postal and telegraphic conditions force us to do, we obtain a fairly representative picture of the E.L.T.A. aerodrome as it is during most weeks.

Probably the machines which have done most passenger work up till now are the Avros, which are kept busy from morning till night taking up joy-riders. The fees charged, and this applies to all the firms, are fairly high compared with British standards, but it must be admitted that value is given for the money, passengers being taken over the harbours, rivers and part of the town itself, while those who so prefer are treated to a series of stunts, including loops, spins, rolls, etc. The Avro machines were flown over from England, landing at Evere, in Belgium, to replenish their fuel tanks. An Avro five-seater, piloted by Mr. Hinchliffe, accompanied by two mechanics, Hargreaves and Yates, also arrived by air, making a landing at Utrecht *en route*. Another Avro, piloted by Mr. Shanks, was unable to find the aerodrome, as it was getting dark, and made a landing in a field near Vondel Park, flying to the aerodrome the next morning. During our visit to the E.L.T.A. one of the Avro pilots—Mr. Brown, we believe—gave a very fine exhibition of night flying. The ground was illuminated by searchlights, and the Avro pilot signalled instructions to the searchlight operators by means of coloured signals. Two of the searchlights picked up the machine and kept it illuminated, while a third searchlight swung its beam horizontally so as to illuminate in turn all the hangars and pavilions of the aerodrome, thus giving the pilot his bearings. This accomplished, the pilot commenced a series of evolutions, still in the beams of the searchlights, and a very pretty sight it was. The pilot was hailed with applause on landing, and well he deserved it.

In addition to their exhibits on the stand, the Aircraft Manufacturing Co. had on the aerodrome two machines, both flown over from this country. One of these was a D.H. (Airco) 4 A, with Rolls-Royce engine, which was flown over by Capt. Saint, who covered the distance from London to Amsterdam, *via* Marquise, in a total flying time of 2 hrs. 35 min. The Airco 4 A is already so well known to our readers as to require no description here. It is, of course, the type which has done so much useful work during the Peace Negotiations, carrying statesmen to and from Paris. The second Airco machine on the Elta aerodrome is a D.H. 9, with B.H.P. (low-compression) engine. This machine was flown over by Mr. Eric Lawford, who will be remembered as the owner of the Champel biplane, and previous to that as a pupil at the Ewen flying school at Hendon. Mr. Lawford has now joined the large staff of pilots of the Aircraft Manufacturing Co., and after the Amsterdam show he will be back at Hendon again, where many of the old-time "boys" are gradually collecting.

On August 8 a Blackburn Kangaroo, piloted by Mr. Kenworthy, another old-time Hendon pilot, left Leeds and flew to Hounslow, where the necessary formalities were attended to, and the machine then left for Holland, Mr. Kenworthy being accompanied by five passengers. Darkness prevented the machine from reaching Amsterdam on the Friday, and a landing was made at Brussels at 8.30, where the night was spent. The next morning the Belgian King inspected the machine, and after a series of exhibition flights over Brussels the machine left for Amsterdam, which was reached in 1 hr. 35 mins. The Kangaroo has had its *fuselage* roofed over for a certain distance, thus providing cabin accommodation for a number of passengers. When our representative left Amsterdam last week the Blackburn was busy taking up passengers, which it did successfully in spite of the unsatisfactory condition of the aerodrome.

The British Aerial Transport Co. is represented, in addition to the two machines shown on their stand, by a Bantam

and a passenger machine, the F.K. 26. The latter machine was piloted across by Maj. Draper, who was accompanied by Mr. and Mrs. Koolhoven and Mr. Tom van Laar, Mr. Koolhoven's chief engineer. In addition, some 200 lbs. of luggage was carried, as well as engine spares, spare wheels, etc., and a consignment of Cellon sheet for a Dutch firm (van Berkels). The machine flew over the shell swept zones of Belgium and entered Holland. Here Draper had a slight argument with his map, which failed to show a large sheet of water that could be seen below. Draper then came down low along a railway and Mr. Koolhoven read the name of a station, marking the position down on the map which was handed back to Draper, who then proceeded on his proper course. A landing was made at Soesterberg where the machine arrived at 7.35, having left Hounslow at 5.5, and thus doing the distance in 2½ hrs. At Soesterberg the party was entertained by the military aviators, who would not hear of them going on that day, and consequently the F.K. 26 did not reach Amsterdam until the Saturday. The Bat Bantam, piloted by Lieut. Duke, left England on the Saturday, stopping *en route* to see a friend at Antwerp, where he was detained by the Belgian authorities, who mistook the black and orange rings painted around the *fuselage* of the Bantam for German marks. However, he managed to "escape" and arrived at Amsterdam, where he gave a very fine exhibition of flying, much to the joy of the Amsterdammers. Without offending anybody, it may be said that the exhibition flights by Messrs. Draper and Duke on the Bat Bantam are some of the finest seen at the E.L.T.A. aerodrome, and since the arrival of these two pilots Herr Fokker, who up till then had been the idol of the visitors, has been obliged to take second or third place.

As already mentioned, the Handley Page firm, in addition to the V 1500 shown on their stand, have on the aerodrome a twin-engined type with a luxuriously furnished cabin seating 14 passengers. This machine, photographs of which were published last week, was flown across by Capt. Meintjes, a South African pilot, who was accompanied by a party of Dutch and English passengers. One of these was Mr. Ter-vooren, Editor of the weekly illustrated Amsterdam paper "Het Leven," who took a series of excellent photographs of the trip. A forced landing was successfully made at Breda, the weather being anything but favourable, with rain and mist. The next day the H.P. reached Amsterdam *via* Soesterberg. Owing to the bad condition of the aerodrome the machine sank into the mud and gently stood on her nose, without, however, sustaining any damage beyond a slight telescoping of her wireless mast. During our visit to Amsterdam the H.P. was not able to make passenger flights, as the ground, although getting better, was still too unreliable for such a heavy machine. Otherwise there is not the slightest doubt that the Handley Page would have been kept busy carrying passengers, as the comfortable cabin appealed very strongly to the visitors.

Messrs. Vickers, Ltd., had on the aerodrome one of their Vimy-Commercial machines, which was flown by Sir John Alcock and by Capt. Cockerell, the latter having flown it across from England, accompanied by a large party of passengers with their luggage. During this flight one of the passengers, Mr. Mullens, "filmed" the journey and took an excellent series of pictures of the start, the journey itself, "life on board" and the arrival at the E.L.T.A. This film was later shown at the Cinema de Munt, where it was greatly appreciated. As regards regular passenger carrying, the same applies to the Vickers as to the Handley Page, the ground was far too soft, although the little front wheel of the Vimy-Commercial was very effective in preventing the machine from turning on to her nose.

Apart from the Caudron and Breguet machines shown in the exhibition, France was only represented by one ancient type Caudron of the G 3 type, which, however, did a great deal of flying and, with its long skids, made light of the bad condition of the aerodrome.

As already mentioned, the two Italian machines, the Fiat and the Caproni, did not stay long at the aerodrome but were transferred to the show. A little S.V.A. two-seater, piloted by Signor Guglielmotti, remained at the 'drome and did quite a lot of flying. One does not altogether like the way this machine takes off, with its tail skid never leaving the ground during the preliminary run, but it appears to fly very well, and its pilot can make it do most of the things that an aeroplane can do, so probably it is only a matter of getting accustomed to it.

Holland is well represented on the aerodrome. We counted at least three different types of Fokker machines, a biplane with rotary engine, one with stationary engine, and a parasol monoplane. During the early part of the exhibition Herr

Fokker did quite a lot of flying, but since the arrival of some of the British pilots he is rarely seen. The task of upholding the honour of the Netherlands falls upon another Dutch pilot, Lieut. Versteegh, for whom we have nothing but praise. The way he handles a Fokker parasol monoplane, one of the cantilever type without external lift bracing, is little short of marvellous. He does steep climbs, tail slides, vertical banks, loops and rolls. We frankly admit that hitherto we had been under the impression that aeroplanes of the parasol monoplane type were tricky, having a nasty habit of side-slipping on the least provocation, but we must admit that Lieut. Versteegh somewhat altered our view by his exhibitions on the Fokker. All the same, we, if not the pilot, should feel much happier if the machine had one or two lift wires.

One of the Spyker school machines, to which reference has already been made, is also flying at the E.L.T.A. aerodrome, and for its low power, 80 h.p., flies remarkably well. There is a tractor biplane with enclosed passengers' cabin, which is usually known as a Fokker, but when we had a closer look at it we found it to have such a strong family resemblance to the German L.V.G. tribe that there can be little doubt that it belongs to that family. For a heavy type of machine it flies fairly well, and it could always be recognised in the air by the smoke issuing from the exhaust collector. In addition to this L.V.G., one noticed a couple of biplanes which were unmistakably Rumplers, probably captured and interned during the War.

HONOURS

G.B.E. for Sir F. Sykes

It was announced in the *London Gazette* of August 26 that the King has conferred the appointment of a Knight Grand Cross of the Order of the British Empire (Military Division) upon Major-General Sir Frederick Hugh Sykes, K.C.B., C.M.G., Retired List, late Royal Air Force, "for distinguished services to aviation in general, and in particular for invaluable work as former Chief of the Air Staff."

Honours for Crew of R. 34

It was announced in a supplement to the *London Gazette* on August 23 that the King has been pleased to give orders for the following appointment, in recognition of distinguished services to aviation:—

C.B.E. (Military Division)

Maj. George Herbert Scott, A.F.C., R.A.F., Commander of H.M. Airship R. 34 on the outward voyage to United States of America and also on the homeward journey.

The King has been pleased to confer the following rewards in recognition of distinguished services rendered to aviation, in the successful voyages of airship R. 34 from the United Kingdom to the United States of America and back.

Outward journey.—Left East Fortune at 1.42 a.m., July 2, 1919, and arrived at Hazlehurst Field, Long Island, at 1.54 p.m. (G.M.T.), July 6, 1919. (Duration, 108 hours 12 minutes.)

Homeward journey.—Left Long Island 3.54 a.m. (G.M.T.), July 10, 1919, and arrived at Pulham, Norfolk, at 6.57 a.m., July 13, 1919. (Duration, 75 hours 3 minutes.)

ROYAL AIR FORCE

Air Force Cross

Col. (A./Brig.-Gen.) Edward Maitland, C.M.G., D.S.O.
Capt. (A./Maj.) Gilbert George Herbert Cooke, D.S.C.
Lieut. Guy Harris.
Sec. Lieut. John Durham Shotter.

Air Force Medal

No. 206345 Flight-Sergt. William Rose Gent.
No. 200965 Sergt.-Major. II. Walter Robert Mayes, D.S.M.
No. 314353 Flight-Sergt. Walter James Robinson.
No. 200079 Flight-Sergt. Reginald William Ripley.
No. 201741 Flight-Sergt. Norman Albert Scull.
No. J/3349 Sergt. Herbert Murray Watson, D.S.M.

Foreign Honours for R.A.F. Officers

It was announced in a supplement to the *London Gazette* on August 23 that the King has granted unrestricted permission for the wearing of the following decorations, conferred on the officers and other ranks indicated for valuable services rendered in connection with the War:—

ROYAL AIR FORCE

By the President of the French Republic

Legion d'Honneur, Officier.—Maj.-Gen. Sir F. H. Sykes, K.C.B., C.M.G. (Ret. List).

Legion d'Honneur, Chevalier.—Lieut.-Col. G. W. F. Fraser, O.B.E.; Capt. (A./Maj.) G. Gude, O.B.E.; Maj. C. A. L. Harrison, O.B.E.; Capt. L. E. Innes-Baillie (R.M.L.I.).

Taking it all around, the E.L.T.A. show must be said to be a great success from the popular point of view, the attendance being extraordinarily good every day. That little business may be done immediately, except by passenger carrying and by a few accessories firms, must be admitted, but on the other hand the show will go a long way towards popularising aviation, and after all is said and done this is, perhaps, all that can be expected for the next couple of years. The propaganda work thus done cannot fail to be of great benefit once commercial aviation does become firmly established. We would like to impress this fact on those firms which were inclined to be a little disappointed at the absence of immediate business at the E.L.T.A. show.

In conclusion, the writer would like to express his indebtedness to Mr. van der Steen, Organising Manager of the British section at the E.L.T.A., who works like a Trojan for British interests, for valuable assistance, and also to the group of Dutch editors and journalists whom he had the pleasure of meeting in the Press room. Especially does he wish to express his thanks to Mr. G. J. Nijland, editor of the Amsterdam *Algemeene Handelsblad*, for his untiring assistance in getting passes, photographic permits, etc., and to Mr. J. C. E. Sand, of *De Telegraaf*. The kind assistance and advice of these gentlemen, all of whom speak English fluently, have been of the greatest value, and have rendered the task of reporting the exhibition very much easier than it would otherwise have been.

Croix de Guerre, avec Palme.—Capt. A./Maj. E. J. Briscoe, O.B.E.; Capt. C. B. Dalison, A.F.C.; Lieut.-Col. R. B. Davies, V.C., D.S.O.; Maj. C. Draper, D.S.O.; Capt. W. L. Elder, C.M.G., R.N. (formerly R.N.A.S.); Lieut. W. J. Gillespie, 41 Sqn.; Capt. J. A. Glen, D.S.C.; Maj. H. P. L. Higman, D.F.C.; Lieut. J. D. Newberry (deceased); Capt. L. V. Pearkes; Lieut. E. C. Potter; Wt. Offr., Cl. II. (now Sec. Lieut.) J. Rees.

Croix de Guerre, avec Etoile, en Vermeil.—245207 Sergt.-Mech. J. P. Hazell, 107th Sqn.

Medaille d'Honneur avec Glaives, en Argent.—216604 Sergt.-Obsr. W. J. Middleton, D.F.M.

Medaille d'Honneur avec Glaives, en Bronze.—25970 Pte. A. Weickers; 8259 A./Mech. II. C. H. Cobden.

BY THE KING OF ITALY

Officer of the Order of St. Maurice and St. Lazarus.—Lieut.-Col. (A./Brig.-Gen.) R. H. More, C.M.G., C.B.E.

Cavalier of the Order of St. Maurice and St. Lazarus.—Maj. A. McAlister; Lieut. L. F. de Peyrecave.

Cavalier of the Order of the Crown of Italy.—Maj. R. P. Whitehead.

BY THE KING OF THE BELGIANS

Medaille de la Reine Elizabeth.—Asst. Admtr. Miss M. S. Cole-Hamilton, W.R.A.F.

BY THE KING OF RUMANIA

Officer of the Order of the Crown, with Swords, and Knight of the Star of Rumania, with Swords.—Capt. (A./Maj.) F. S. Moller, M.C., D.F.C.

BY THE BEY OF TUNIS

For Services at Bizerta

The Order of Nichan Iftikhar, Third Class.—Lieut. F. H. Bell (Flying Officer); Lieut. A. V. Gash; Lieut. A. Smith (Flying Officer).

Order of Nichan Iftikhar, Chevalier, Classe 1.—209246 L.A.C. F. Blight (St. Austell); 208551 A./C. I. G. C. Crane (Stratford); 206142 L.A.C. F. Coward (Ventnor); 211479 L.A.C. S. Reeve (Norfolk); 209464 L.A.C. A. F. Mason (Newmarket); 206403 L.A.C. E. Thompson (Wimbledon).

Correction

Maj. James Percy Carre Cooper, O.B.E., M.C., 10th Bde. (France), is the correct description of the officer awarded the Star of Roumania, Officer, in the *Gazette* of July 15, 1919.

Foreign Decorations for the R.A.F.

As a considerable number of officers and other ranks of the R.A.F. have been awarded a foreign decoration during the war and have not yet received the insignia, a list of such cases is being compiled by the Air Ministry with a view to the decorations being obtained. Officers and other ranks concerned (a) who have now been released from the service or (b) who are not serving either abroad or in the area commands at home, are accordingly requested to communicate with the Secretary, Air Ministry, quoting A.M.W.O. 946 and giving the following particulars: Air Force number; rank; full Christian names and surname; designation of decoration not received; date (approximately) of *Gazette* in which notification of award was made; and full postal address.

As an example of a Hun War-Kultur legacy to the world in general, the indiscriminate laying of floating mines will be hard to beat, accepting as facts the statements upon the subject as set out in a paper to the French Academy of Sciences by the Prince of Monaco, who for many years has been known as one of the leading European oceanographers. The paper deals with the probable route of these floating mines in the North Atlantic and Arctic Oceans.

He is of opinion that mines sown or set adrift in the North Sea will wander along the northern coasts of Europe until they are finally swept into the fjords of Norway. Those which have been set free on the Atlantic coasts of Europe will fall into the system of currents dominated by the Gulf Stream. Some, no doubt, will be held up on the Canaries or the Antilles, others will fall into, and find difficulty in emerging from, the Sargasso Sea, the great Atlantic whirlpool. Those that escape these obstacles will float down the coasts of Europe and of North Africa, travel across to the West Indies, return by the Gulf Stream, and then either renew their journey or pass up the West of Ireland to end in the Arctic ice or Norwegian fjords. The average speed of these journeys is about 5 miles in 24 hours, so that the return voyage from the Channel to the West Indies would take about four years.

The great American war correspondent, Irvin Cobb, who weighs 20 stone, and every ounce of him genial and humorous (he boasts of his bulk in an easy Chestertonian way, so we need feel no diffidence in mentioning it), had an interesting experience in the early days of the war, being the only civilian to be permitted an ascent in a German observation balloon.

We quote from his description :—

"On observation balloons, in time of war, no casualty insurance is available at any rate of premium. I believe those who ride in them are also regarded as highly unsuitable risks. My pilot was successor to a man who had been burned to death in mid-air a week before, and on the day before a French airman had dropped a bomb from the clouds that had missed this same balloon by a margin of less than 100 yards—no bad cast, all things considered. I clambered into the overgrown clothes hamper, wherein we had to stand back to back, the canvas saddle between us and the telephone in front of the lieutenant, where he could reach the transmitter by stooping a little.

"I looked up at the balloon's flaccid abdomen above me, which flinched in and puffed out, and the snout wobbled to and fro. The lieutenant explained, with a tinge of polite regret in his voice, that he was sorry I had not put on a uniform overcoat before boarding the car, as in the event of the cable parting and our drifting over the Allies' lines and descending, I should most certainly be shot as a spy before I had a chance to explain. 'However,' he added consolingly, 'these possibilities are most remote. The rope is not likely to break, and if it did we should both probably be dead before ever we reached the earth.'"



The Distinguished Flying Cross

and

The Air Force Cross.

THE Prince's conclusions are based on observations which he has made over a series of years on ocean currents. To avoid confusion from the effects of surface wind-driftage, he employed the device of dropping objects weighted so that they would float just under the surface.



The fascination of aviation: Mr. G. T. F. Hunter, late R.A.F. pilot, who lost the use of both legs through a crash while on service, now takes the air at Hendon as a passenger

Having done his duty as a host, the lieutenant gave the order to pay out the cable, and Cobb became sufficiently occupied between his tendency to be air-sick and watching the rapidly receding earth. From his high vantage point he could readily pick out the French infantry, red-trousered, "like cochineal insects" crawling over the green-yellow face of a ridged field. "Some of them got there, and some did not. Certain puff balls of white smoke and one black smudge of high-explosive broke over them and among them, hiding all from sight for a space of seconds. Dust clouds succeeded the smoke, and then the dust lifted slowly. Those ants were not to be seen. They had altogether vanished. It was as though an ant-eater had come forth invisibly and eaten them all up. Marvelling at this phenomenon and unable to convince myself that I had seen men destroyed, not insects, I turned to watch another line of red ladybugs that had been painfully crawling nearer by. Lo! they were gone too! Either they had reached shelter or a painful thing had befallen them. The telephone spoke a brisk warning. 'I think we should return at once,' said the lieutenant. 'Are you sufficiently wearied?' An Allied aviator had been signalled."

The magic mantle of Jules Verne (do you remember the imperturbable Captain Nemo?) seems to have descended as by right to Mr. Rudyard Kipling. In his story "With the Night Mail," he tells of a new type of aircraft, metallic and enclosed, which may yet crystallise from dream into reality. The description of the engine-room of this craft (which runs 16 seconds to the mile) is as suggestive as it is plausible:—

"Here we find Fleury's paradox of the bulk-headed vacuum, which we accept now without thought, literally in full blast. The three engines are H.T. and T. assisted-vacuo Fleury turbines running from 3,000 to the limit—that is to say, up to the point when the blades make the air "bell"—cut out a vacuum for themselves precisely as over-driven marine propellers used to do. . . . The turbines whistle reflectively. From the low-arched expansion tanks on either side the valves descend pillar-wise to the turbine chests, and thence the obedient gas whirls through the spirals of blades with a force that would whip the teeth out of a power-saw. Behind is its own pressure held in leash or spurred on by the lift-shunts; before it, the vacuum where Fleury's ray dances in violet-green bands and whirled turbillions of flame. The jointed U-tubes of the gas-chamber are pressure-tempered colloid (no glass would endure the strain for an instant), and a junior engineer with tinted spectacles watches the ray intently. It is the very heart of the machine, a mystery to this day. Even Fleury, who begat it . . . could not explain how the restless little imp shuddering in the U-tube can, in the fractional fraction of a second, strike the furious blast of gas into a chill greyish-green liquid that drains (you can hear it trickle) from the far end of the vacuum

through the education-pipes and the mains back to the bilges. . . . If a speck of oil, if even the natural grease of the human finger touch the hooded terminals, Fleury's ray will wink and disappear and must be laboriously built up again.



"DRY" HUMOUR. (Dallas News.)

This means half a day's work for all hands and an expense of one hundred and seventy odd pounds to the G.P.O. for radium-salts and such trifles."

In primitive times the catapult and the sling formed the "last argument of kings," but now our alchemists brew the means of death in retorts, and the bowels of the earth are wracked for new and improved solutions of continuity. Among the necessary war materials are manganese, chromium, tungsten, nickel, cobalt, molybdenum, vanadium, uranium, antimony for hardening lead bullets, magnesium for smoke shells, nitric acid and iron disulphide for explosives, mercury for detonators, mica for gasmasks and platinum.

■ ■ ■

An Airship Over Berlin

For the first time in nine months, a German airship flew over the housetops of Berlin, on August 24, writes *The Times* correspondent in the German capital.

This airship, named the Bodensee, will convey passengers and mails between Berlin, Munich and Friedrichshafen.

The Bodensee is shaped like the British R 34, and is unlike the former Zeppelins. It is 394 ft. long, and carries 35 passengers. Yesterday it attained a speed of 75 miles an hour.

German Aviators Catch Smugglers

ACCORDING to a story from Berlin an attempt to smuggle 20,000,000 m. to Switzerland from Berlin was frustrated by the action of aviators. The smugglers left Berlin on the afternoon of August 18 by the Basel express. When the police received this information three aeroplanes started off in pursuit, and succeeded in overtaking the train at Nurnberg, where the smugglers were arrested and the 20,000,000 m. were confiscated.

Aerial Police for Germany

IN the reorganisation of the German police system the authorities are evidently determined to bring it right up to date. It is stated from Berlin that a network of aerial police patrols has been organised, one of the chief duties of which will be to prevent the migration of capital from Germany, in addition to fighting against criminals generally. A landing-place for police aeroplanes is already being laid out on the Swiss frontier. Similar establishments are planned for Hamburg, Hanover, Breslau, and other towns.



A WEIGHTY PROPOSITION: Stout Lady (about to "go up"): "I wonder if you could accommodate me in the front seat? I should have so much more confidence, and besides I'm so interested in your instruments."

THE LONDON FLYING CLUB, HENDON

EVERYONE knows the old story of the countryman at the Zoo, who being asked what he thought of the giraffe which he then saw for the first time, after a pause, which could almost be heard, muttered: "Well, I don't believe it."

In somewhat similar vein a month or so back, our thoughts were inclined to march in sympathy with that yokel when we heard forecasts of the London Flying Club which was then in course of completion at the Hendon Aerodrome. The picture painted of what was to be the outcome of this scheme to provide London society with a real country club in London, with the added attraction of a Flying Club and all that that carries with it, was so elaborate that it was not easy to visualise what was really going on at Hendon—one has become so accustomed to roughly fashioned and none too slightly hangars, whether in canvas, wood or otherwise. But a casual visit the other day to the Grahame White 'drome and works down by Collingdale Avenue, served as an excuse to "drop in" at the other side of the scene and have a peep at what really was being accomplished in readiness for the launching of the London Flying Club. Surprise is hardly the word. Frankly we were utterly astounded at what we saw. Instead of the anticipated more or less flimsy erections "in series" which we expected to encounter, upon arrival at the Club main gates, our car passed through and round a broad gravelled drive to the entrance to the Club itself, where were hall porters and attendants in Club uniform, immediately in evidence to attend to members or their friends. Therefore, we argued, the Club must already be in actual operation. And in another moment, upon actually entering the hall, this idea again forced itself forward. But a second or two and Mr. Claude Grahame White was notified of a visitor. During the short interval pending his arrival from some remote part of the range of buildings, we entered the reception hall of the Club with an instant feeling of comfort, luxury and content gradually spreading over us in spite of the pelting ghastly rain out of which we had just passed. Scattered about in apparent haphazard positions were roomy arm-chairs of all shapes and sizes, settees in keeping which, with their big downy-looking cushions, seemed to silently invite to repose; around the walls were writing tables at regular intervals, whilst in squares enclosed by more settees were collections of huge palms and cool-looking ferns, which on the torrid day of our visit were a very welcome antidote to the general sun-heat prevailing. Glancing through the tall windows of this capacious lounge, in the forefront a delightful series of lawns with garden seats by the hundred, and a plashing fountain on the wide terrace which runs the entire length of the Club building, met the view. On the lawns were hard tennis courts in play, with an old-world garden stone path ending with a summer-house, dividing the courts. And away beyond is a grand stretch of level grassland with a natural background of stately trees stretching away to the right as far as the range of sight reached. Here some 80 acres are available for the Club's actual flying members and their friends, and for the future development of sports, as circumstances may in the immediate future call for.

In this connection arrangements include provision for polo, golf, squash rackets, covered tennis-courts, real ice-skating, etc.

During these few moments of looking round, Mr. Grahame White, the prime mover in this delightful transformation of what was originally a portion of the old Hendon aerodrome, had materialised and under his guidance the rest of the really attractive Club premises were revealed. Adjoining the lounge and coupled up with it by a well-appointed "corridor," of such spacious dimensions as really to constitute a "junior" lounge, the ball-room was the next item. Here again the most admirable taste and forethought has been exercised in planning as charming a dancing-room as can be seen either in or out of London. It required no emphasising to convince that 2,000 could easily be accommodated in this building, whilst a very suggestive provision for future entertainment is provided at one end in the form of a large stage, suitable, we should say, for the production in reason of almost any ordinary play. Hereon to start with will perform the Club's bands—a Hawaiian orchestral combination is the attraction which has been secured for the opening months of the autumn. At the opposite end of the "corridor" is the main dining-room, where accommodation for a very large number of members is provided for. As to the cuisine and cellar, which later we were able to sample, if there were nothing else to attract at the L.F.C. this side of the new Club

will probably quickly draw Hendon-way the cream of those who appreciate the *haute cuisine* with good service, midst charming surroundings. It was an experience afterwards to wander through the kitchen and its "satellites" which makes the exceptional service at all possible. No point of up-to-dateness has here been overlooked, not forgetting a very complete refrigerating plant. Everywhere the guiding hand of experience emerges in the result. Round the huge "kitchener" in the centre of this organisation of "service" is ranged a series of sub-departments, each so placed and equipped as to ensure the minimum of walking for the staff—an important provision—the least confusion and the highest efficiency throughout the system. Wherever possible electricity has been harnessed to do the work usually and wearily carried through by hand, and the white-tiled walls, which are characteristic of this section of the Club, suggest the impossibility of anything but the most perfect cleanliness.

A move was then made to the upper floor, where, facing the sports ground, a large, light library and writing-room occupies one corner, whilst another noble apartment adjoining caters for the card-playing section of the Club. Side by side with these are dressing-rooms, where both sexes can before and after play ensure comfort in attire and the luxury of a bath, etc., to follow the exertions of their particular sport. And then, beyond, right round the great building run corridors, off which the 80 bedrooms, which form a not unconsidered part of the members' accommodation, range, besides the necessary attendants' offices, bath-rooms, etc. A feature of these bedrooms is that hot and cold water is provided in every one, thus again economising labour, and a Government telephone is also installed in each of the apartments, available either for internal inter-communication or for the ordinary 'phone service, including trunk calls. In these days of increased cost what the entire undertaking means in £ s. d. makes one to think furiously, for no item which tends to comfort has been overlooked in equipping this the latest addition to London's outlets for boredom. Possibly the gross cost has been somewhat discounted by reason of Mr. Grahame White having elected to be his own contractor, and he has carried this through even to the furnishing of the place, the whole of this item having been manufactured "upon the premises" by the G.W. Co. Altogether it is hardly surprising to learn that practically without exception every visitor to the L.F.C. has put his name down for election as a member and that already, although the Club can hardly be said to have opened its doors yet, quite a lengthy list for the committee to go through is on hand, and by the time, about the middle of September, when the President of the Club, Lord Lonsdale, presides at the formal inauguration of the Club, a formidable first list of members should be in being. In the list of vice-presidents is found a number of leaders in the worlds of fashion and of sport, and with the backing which the Club now has, it is fairly safe to prophesy that it should be the vogue commencing with its opening. Ample provision has been made for the convenience of members getting to the Club, by a range of Club cars and other larger conveyances, either direct from town, where the L.F.C. headquarters are at the Ritz Hotel, or from Golders Green station or any other point of attack.

Altogether those mainly responsible, working with Mr. Grahame-White, for the carrying through of this important undertaking are to be heartily congratulated. Mr. W. H. Mathews, one of the Directors of the G.W. Co., throughout has given his attention to the plans, architectural work, etc., whilst Signor Nobilli, the Manager of the Club, late of Claridges, Ranelagh, etc., has given invaluable aid in devising and installing the model systems of service which are such a strong point.

The secretarial arrangements are in the very capable hands of Maj. G. B. Ollivant, to whom, at Hendon, any inquiries as to membership, etc., should be addressed. Election is by ballot, but members of the Service, sporting and other leading clubs have the privilege of going for election without the formality of a proposer or seconder. The subscription is moderate for the accommodation provided, and members of the Royal Aero Club and R.A.F. officers, past or present, have special consideration respectively in regard to modified subscriptions. In conclusion, we wish the Club a highly successful future, and can well imagine that before long late joiners-up will find that it has become necessary to enforce an entrance fee, which for the moment is not being imposed.

THE R.A.F. SPORTS



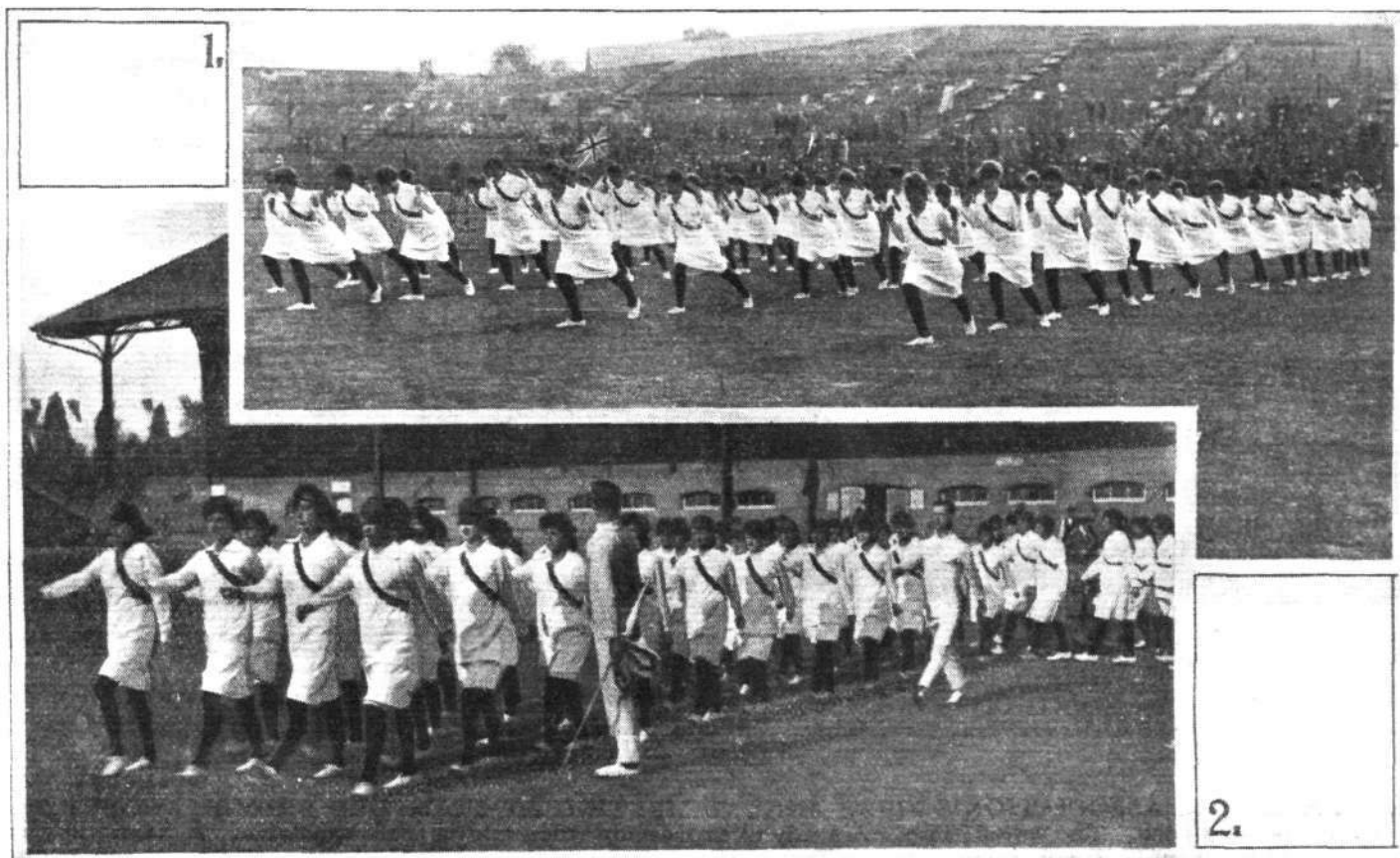
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At the R.A.F. Athletic Association's meeting, Stamford Bridge.
A parade of competitors before the meeting

EXCELLENTLY organised and well conducted, the sports held by the R.A.F. Athletic Association at Stamford Bridge were a great success. The 30 events on the card provided a great deal of sport and the competition in the 19 events which counted for the King's Cup—awarded to the area compiling most points—was especially keen. When the runners went to their marks for the mile relay race the South-Western Area and the Midland Area were level. In that event, however, the Midland team dropped their flag, and victory went to the South-Western, who won the race from

the Northern Area and secured the trophy. Some good individual performances were accomplished—notably by the old Pauline captain, A. P. Mitchell, who won the quarter-mile in 51 3-5 sec.; by Capt. Gibbs, who won the mile in 4 min 34 1-5 sec.; and by Capt. Irwine, who won the three miles after a close race with Sergt. C. I. Clibbon in 15 min. 15 3-5 sec. Good long-jumping by Flying Officer Fraser, who won his event at 21 ft. 4 3/4 ins., and a physical training display by the Women's Royal Air Force were further noteworthy features.

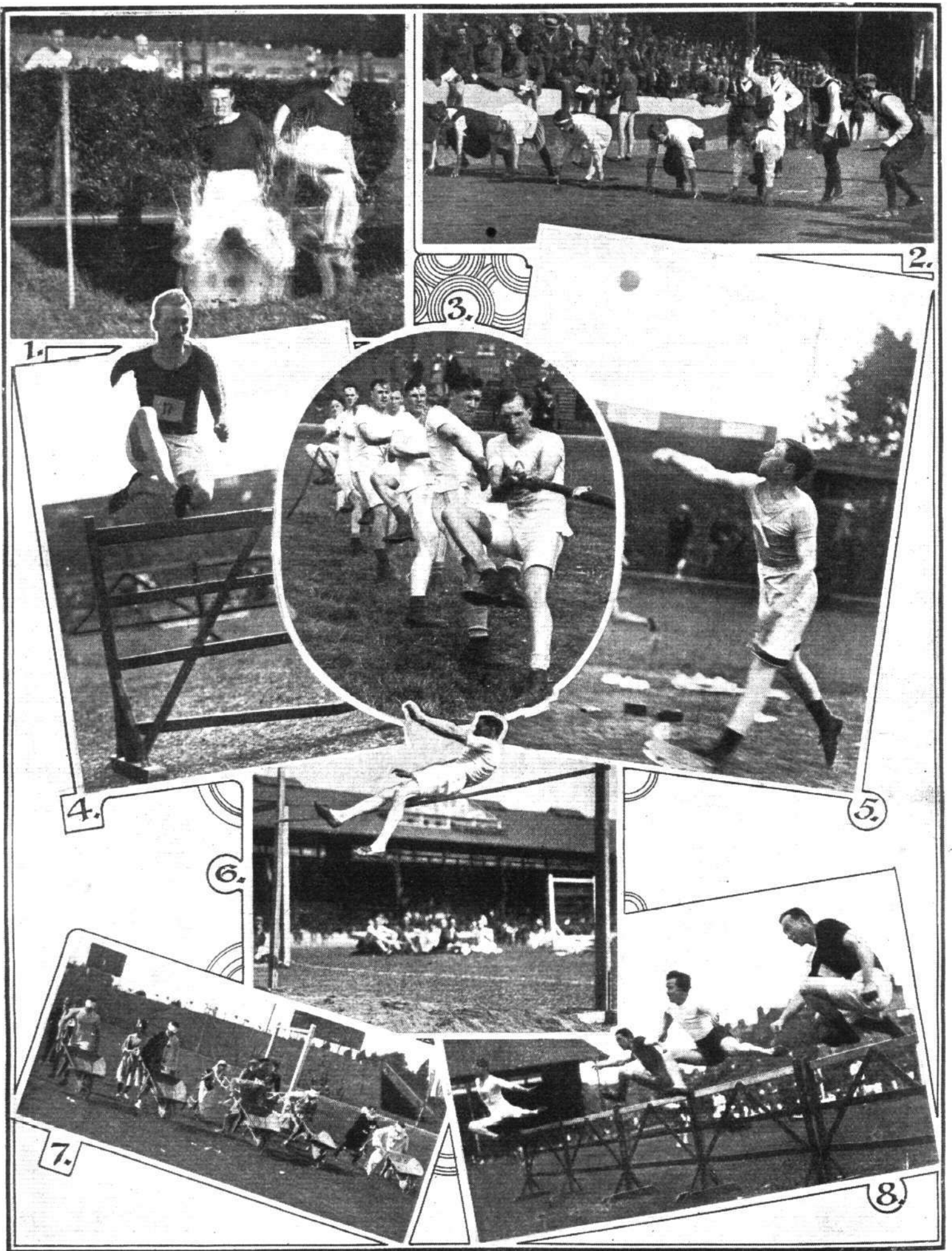
Three-mile Race.—Capt. Irwine (Northern Area), 1;



2.

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Physical Training display by the W.R.A.F.s at the R.A.F. Athletic Association's meeting



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R.A.F. ATHLETIC ASSOCIATION'S FIRST ANNUAL MEETING AT STAMFORD BRIDGE, AUGUST 21.—
 1. Pals' obstacle race. The water jump. A study in expression when taking their medicine. 2. Start, in quite professional form, of W.R.A.F. relay race. 3. Tug-of-War. The winning team, Midland Area, had a style of their own; in "taking the strain" all had one leg in the air, which in unison came down with a thud on the word "Pull." 4. Capt. Cording, with one arm, won his heat in the 120 yards hurdle race. 5. Putting the shot. Winner, Capt. Jones, putting the winning shot. 6. High jump. Sergt.-Major Miller clearing 5 ft. 8 ins. He tied for first place with Lieut. F. C. Penny. 7. Blindfold chariot race in fancy dress. 8. A heat for the 120 yards hurdles. The nearest to camera won

Sergt. C. I. Clibbon (Halton), 2; A. C. Pratt (S.E. Area), 3; Capt. Austin (R.A.F., Rhine), 4. Won by a yard. Time, 15 min. 15 3-5 sec.

W.R.A.F. Relay Race (440 yds).—S.W. Area, 1; Halton, 2; Northern Area, 3. Won by 8 yds. Time, 57 1-5 sec.

440 Yards Race.—Capt. A. P. Mitchell (Halton), 1; Cpl. Bosberry (R.A.F., Rhine), 2; Sergt. Poigndestre (S.E. Area), 3; Lieut. Jones (R.A.F., Rhine), 4. Won by 12 yds. Time, 51 4-5 sec.

One Mile Race (open to members of Imperial Allied Forces).—Lieut. R. D. Chalmers (A.I.F.), 1; Dvr. W. G. Battersbie (R.F.A.), 2; H. C. H. Ashby (late R.A.F.), 3; Sergt. R. H. Geary (R.A.F.), 4. Won by 20 yds. Time, 4 min. 51 1-5 sec.

880 Yards Race (open to former members of the R.A.F.).—Cpl. P. A. Beard, 1; Cadet J. Noble, 2. Won by 10 yds. Time, 2 min. 9 4-5 sec.

One Mile Race (R.A.F.).—Capt. Gibbs (Midland Area), 1; A. C. Nix (S.W. Area), 2; Flight-Sergt. Darlington, 3. Won by 15 yds. Time, 4 min. 34 1-5 sec.

100 Yards Race.—Sergt.-Maj. Mawbey (Midland Area), 1; Sergt.-Maj. Kressler (Northern Area), 2; Cpl. Bosberry (R.A.F., Rhine), 3. Won by half a yard. Time, 10 3-5 sec.

880 Yards Race.—Flying Officer Shaw (S.W. Area), 1; A.M. Morris (Midland Area), 2; Lieut. Catchpole (Northern Area), 3. Won by 10 yds. Time, 2 min. 3 2-5 sec.

120 yards Hurdles.—Flying Officer Fraser (S.W. Area), 1; Flight-Lieut. Scott (S.W. Area), 2; Lieut. Bellin (R.A.F., Rhine), 3. Won by 5 yds. Time, 17 1-5 sec.

880 Yards Race (for Enlisted Boys).—Snaith (Northern Area), 1; T. Weatherall (S.E. Area), 2; Fox (Midland Area), 3. Won by 6 yds. Time, 2 min. 9 1-5 sec.

220 Yards Race.—Sergt.-Maj. Mawby (Midland Area), 1; Capt. A. P. Mitchell (Halton), 2; Sergt. Clarkson (Midland Area), 3. Won by 3 yds. Time, 23 1-5 sec.

100 Yards Race (Imperial and Allied Forces).—Sergt. Wilson (New Zealand), 1; Dvr. L. J. Hume (Australia), 2; Lieut. N. V. Webbe, 3. Won by a yard, after a dead-heat. Time, 10 3-5 sec.

Tug-o'-War.—Midland Area beat R.A.F., Rhine, by two pulls to none.

High Jump.—Lieut. F. C. Penny (Irish Group) and Sergt.-Maj. Miller (Midland Area) tied at 5 ft. 7 ins. for first place; Lieut. Walmsley (Midland Area), 5 ft. 3 ins., 3.

Putting the Weight.—Sergt.-Maj. Mawby (Midland Area), 32 ft. 3 ins., 1; Lieut. Fish (Midland Area), 32 ft. 2; Capt. Jones (Northern Area), 31 ft. 8½ ins., 3.

Long Jump.—Flying Officer Fraser (S.W. Area), 21 ft. 4½ ins., 1; Flight-Lieut. Scott (S.W. Area), 20 ft. 7 ins., 2; Maj. Saul (R.A.F., Rhine), 20 ft. 6½ ins., 3.

One Mile Relay Race.—S.W. Area, 1; Northern Area, 2. Won by 12 yds. Time, 3 min. 47 1-5 sec.

Composite Relay Race (Field Officer, Officer, Warrant Officer, N.C.O., or Man, each to run 100 yds; W.R.A.F. to run 40 yds).—Midland Area, 1; Northern Area, 2; R.A.F., Rhine, 3; South-Eastern Area, 4. Won by 6 yds. Time, 49 4-5 sec.



AVIATION IN PARLIAMENT

Air Ministry Clerks' Holidays

MR. ANEURIN WILLIAMS, in the House of Commons on August 11, asked the Under-Secretary of State to the Air Ministry whether girl clerks in his Department receive 12 days' holidays and men clerks 28 days; and, if so, what is the reason for the difference?

Major-Gen. Seely: The leave of temporary clerks, to whom I assume that my hon. friend is referring, is governed by the rules made by the Treasury, and is the same for both males and females, the minimum being 12 working days, or one day for each month's service. The leave of permanent Civil servants is governed by a different set of rules, also made by the Treasury. If my hon. friend wishes for further information, perhaps he would be good enough to put a question to my hon. friend the Secretary of the Treasury.

Medal for Anti-Aircraft Service

MR. J. JONES, on August 12, asked the Secretary of State for War if he will reconsider the question of granting the general service medal to the members of the anti-aircraft service who rendered such valuable services during the War?

Capt. Guest: As I have already stated, the question of an award to those who served at home during the War is under consideration. I would refer the hon. member to my reply on Tuesday last to the hon. and gallant member for Wavertree.

MR. J. JONES: Is the hon. and gallant gentleman aware that large numbers of these men were actually in danger, while some men who have the medal were never near the firing line and were never in any danger?

Capt. Guest: There is a certain amount of truth in what the hon. member says, but the Committees which have been considering this have been composed of men who have taken part in the operations and have also been on home service during the War, and the War Office has been very largely guided by their advice.

R.A.F. Demobilisation

SIR W. JOYNSON-HICKS, on August 13, asked the Under-Secretary to the Air Ministry how far demobilisation of the Air Force and Ministry, in men, hotels, and flying grounds, has proceeded since the date of the Armistice?

Major-Gen. Seely: So far as officers and other ranks of the Royal Air Force are concerned, I would refer my hon. friend to the figures I gave in my speech of yesterday. So far as the Women's Royal Air Force is concerned, the strength at the time of the Armistice of officers and other ranks were 532 and 23,485 respectively; the corresponding figures for August 1 were 407 and 15,700. I also gave yesterday the number of officers employed in all departments of the Air Ministry at the date of the Armistice and the present strength, but on reference to the report of my speech, I see that I am reported as having said that the figures in question, namely, 806 and 402, referred to the staff of the Ministry in all departments. The figure I quoted from the paper before me referred to the officer staff. The total strength of the Air Ministry departments on November 11 was 4,640, and the corresponding figure for August 1 was 3,230. It must be remembered that the staff of the Civil Aviation Department has been added during this time. Arrangements are in contemplation for further considerable reductions to be made during the next two months, and the transfer of the Air Ministry from the Hotel Cecil to Kingsway, which has now taken place, is expected to facilitate such reduction. As regards the surrender of flying grounds, I would again refer my hon. friend to my speech of yesterday, and as regards the evacuation of hotels the reply I made on the 7th inst. to the hon. and gallant member for Leith.

Central Pay Office; Errors in Payments

CAPT. SIR DOUGLAS HALL asked the Under-Secretary of State to the Air Ministry what action is taken if the central pay office of the Air Force pay a man too much on his being demobilised or otherwise, and find out their mistake and demand it back from the man and he declines to return it?

Major-Gen. Seely: It is not possible to give a general reply to this question. Each case is dealt with on its merits.

Suffolk Aerodromes and Release of Labourers

LIEUT.-COL. GUINNESS on August 14, asked the Under-Secretary of State to the Air Ministry whether he had now given instructions to release from the Orfordness and Aldeburgh aerodromes agricultural labourers employed there, so that their labour might be available in the harvest field in that district of Suffolk; and whether these men employed at Orfordness and Aldeburgh were amongst the 70,000 whom Sir J. Hunter described as not having earned their money?

Major-Gen. Seely: The men at Aldeburgh and Orfordness, employed on the removal of the surplus material referred to in my previous answer to my hon. and gallant friend's question of July 16, have now been reduced to six and 33 respectively. Instructions have been issued to the resident engineer-in-charge that any bona-fide agricultural labourers included amongst them shall be immediately released for work on the land. There are, in addition, 40 men who have been employed for some weeks by the Air Ministry on the very urgent work of repairing sluices and sea-walls. I understand that some local labour may be included in this number, but as it is considered that such labour is the most suitable for the purpose, it is not possible to dispense with these men until their work is finished, which it is expected will be in about a month from now. I am not aware whether Sir J. Hunter had in mind Aldeburgh and Orfordness when he made the statement referred to.

Lieut.-Col. Guinness: Has the work on this aerodrome been carried on under the "time and line" contract system, under which the more money a contractor manages to expend the greater his reward?

Major-Gen. Seely: I must have notice of that.

Lieut.-Commander Kenworthy: Were these two aerodromes not started to meet the submarine menace?

Major-Gen. Seely: The hon. and gallant member is in error in thinking that. They were started long before the war.

British Army and Air Forces Statistics

MAJOR FARQUHARSON asked the Secretary of State for War the total number of men who have served in the Army and Air Forces from the commencement of the war till November, 1918, and the total number discharged from these Services to the end of July, 1919; the total number discharged invalided to the same date; the total number receiving pensions who were discharged not invalided; and the total number discharged not invalided who have applied for pensions but whose pensions have not yet been awarded?

Mr. Forster: The figures asked for in the first three parts of my hon. and gallant friend's question are as follows:—

Number of men who have served in the Army and Royal Air Force from the commencement of the war till November, 1918	5,756,252
Number discharged or demobilised to the end of July, 1919	3,719,950
Number discharged invalided to the end of July, 1919	722,903

The above figures do not include the Royal Naval Air Service up to March 31, 1918. As regards the last two parts of the question, I would refer my hon. and gallant friend to my right hon. friend the Minister of Pensions.

Railway Warrants for W.R.A.F. Members

MR. F. C. THOMSON, on August 18, asked the Under-Secretary of State to the Air Ministry whether it has now been decided to give free railway warrants to members of the Women's Royal Air Force when proceeding home on leave?

Maj.-Gen. Seely: Officers and other ranks of the Women's Royal Air Force serving in the United Kingdom are not given free warrants when proceeding on leave; but officers and other ranks serving overseas receive two free warrants a year. In July last, as a special concession, those officers and other ranks who had been unable, owing to the exigencies of service, to take leave at Christmas, 1918, were granted a free warrant in respect of leave taken prior to August 31.

Female Civilian Subordinates

LIEUT.-COM. KENWORTHY asked the Under-Secretary of State to the Air Ministry how many women, other than members of the Women's Royal Air Force, were employed by the R.A.F. on January 1, July 1, and August 1, 1919?

Maj.-Gen. Seely: The number of female civilian subordinates employed by the R.A.F. (exclusive of the female staff at the Air Ministry) on the dates mentioned by the hon. and gallant member was as follows:—

January 1, 1919	1,823
July 1, 1919	2,547
August 1, 1919	2,500

This increase has been rendered necessary in order to facilitate the very rapid demobilisation of the R.A.F.

Air Ministry (Ex-Service Men Discharged)

MR. J. JONES asked the Under-Secretary of State to the Air Ministry whether thousands of ex-Service men employed under the Air Ministry in the South-Eastern area have been discharged or are under notice; if so, whether he can state the reason for so many men being thrown out of employment at the same time; and whether any effort is being made in conjunction with the Ministry of Labour to find alternative employment for these men?

Maj.-Gen. Seely: The answer to the first and second parts of the question is that civilian subordinates have been, or are being, discharged as a consequence of the very large reduction of the R.A.F. With regard to the last part of the question, as I have previously stated, the anxiety caused to these men and their families is greatly regretted, but it is unavoidable under the circumstances. I am in communication with the Minister of Labour with a view to mitigating the hardship caused as far as possible.

Airship Flight to India

LIEUT.-COM. KENWORTHY asked the Under-Secretary of State to the Air Department, whether it is intended to attempt a flight to India by rigid airship; what is the estimated cost, including the return journey, of such a flight; how many officers and other ranks, respectively, will be required on the line of flight, including the Indian terminus; and whether Treasury approval for the estimated expenditure has been sought and granted?

Maj.-Gen. Seely: The reply to the first part of the hon. and gallant member's question is that there is no present intention of arranging a flight by rigid airship to India. The remainder of this question, therefore, does not arise.

Miss Douglas-Pennant

SIR ROBERT THOMAS on August 19 asked the Lord Privy Seal whether the Government are prepared, on certain conditions, to take part in the House of Lords Inquiry concerning the dismissal of Miss Douglas-Pennant; if so, whether he will inform this House what those conditions are; and will he state the reasons which have led the Government to take this course after refusing in this House the demand for a judicial inquiry?

Mr. Bonar Law: The Committee has power to summon witnesses and to ask for papers. I am informed that the Air Ministry will assist the Committee in making any necessary arrangements for the attendance of witnesses, and will produce papers which the Committee wish to have. The Secretary of State has approved the appointment of counsel to represent the Air Ministry before the Committee.

Anti-Aircraft Gun Defences

SIR JOHN BUTCHER on August 19 asked the Secretary for War whether he will state the number of officers and men who are now employed in this country for anti-aircraft gun defences?

Mr. Forster: The numbers employed in this country in connection with anti-aircraft defences on August 11 were: Officers, 273; other ranks, 2,319. The corresponding numbers on November 11, 1918, were: Officers, 717; other ranks, 11,948. The work of removing the equipment from stations that are no longer required is in progress, and when this is completed the personnel will be further reduced.

Civil Aviation

LIEUT.-COL. MALONE asked the Under-Secretary of State to the Air Ministry whether he can give an assurance that, in taking every step to cut down expenditure and ensure economy in his Department, he will support and strengthen the Department of Civil Aviation in order to assist the development of British aircraft production, the success of which industry will add materially to the general prosperity of the country; and whether he will be prepared to give an account of the progress and work of that Department when Parliament reassembles?

Maj.-Gen. Seely: With regard to the first part of the question, I am not at present in a position to add anything to the statement I made when introducing the Estimates, but my hon. and gallant friend may rest assured that the Government are fully alive to the importance of civil aviation to this country. The answer to the second part of the question is in the affirmative.

The Transatlantic Vickers-Vimy Aeroplane

LIEUT.-COL. MALONE asked the Under-Secretary of State to the Air Ministry whether arrangements can be made for the Vickers-Vimy aeroplane which flew the Atlantic to be placed in the South Kensington Museum with other pioneer examples of locomotion?

Maj.-Gen. Seely: The machine referred to by my hon. and gallant friend is the property of a private firm (Vickers, Ltd.), and I have not yet been informed officially whether this firm wish to part with it for the purpose stated. I am asking my right hon. friend whether he could arrange for the placing of the machine in the South Kensington or other suitable public museum, in the event of the firm desiring to present it to the nation for this purpose.

Staff at Tadmester and Sherburn-in-Elmet

MAJ. LANE-FOX asked the Under-Secretary of State to the Air Ministry what is the present staff of officers and other ranks, including women of the Women's Army Auxiliary Corps, at present stationed at the aerodromes at Tadmester and Sherburn-in-Elmet respectively; to what purpose these aerodromes are to be devoted; and what has been the total cost of their erection and equipment?

Maj.-Gen. Seely: The staff of officers and other ranks at July 31, 1919, at the aerodromes referred to in my hon. and gallant friend's question was as follows:—

	Tadmester.	Sherburn in-Elmet.
R.A.F.—		
Officers	48	2
Other ranks	159	58
W.R.A.F.—		
Officers	2	0
Other ranks	66	0
Civilian Subordinates—		
Male	2	22
Female	2	9
	259	91

There are no members of the Q.M.A.A.C. employed. Neither of these stations are included in the R.A.F. post-War programme, but the use of one of them will have to be retained for civil aviation until a more suitable aerodrome, closer to the City of Leeds, has been provided. These aerodromes will shortly be handed over to the Disposal Board for disposal. The cost of construction has been: Tadmester, £108,000; Sherburn-in-Elmet, £195,000.

The Training of Pilots

COL. ASHLEY asked the Secretary of State for War if he is aware of the contents of the Adjutant-General in India's letter, No. 49259/1 (A.G. 5), dated May 28, 1917, in which warrant officers, non-commissioned officers, and men who volunteered for training as pilots in the R.F.C. were promised commissions as second lieutenants on the general list on passing a six weeks' cadet course in Egypt under certain conditions; whether no notification was given that these conditions had been altered when the R.F.C. was absorbed in the R.A.F. until the issue of the Adj.-Gen. in India's No. 56699/A.G. 1, dated September 27, 1918; whether, in the meantime, many of those concerned had fulfilled the conditions to qualify for a commission under which they accepted training; and, under these circumstances, will he cause an inquiry to be made with a view to the original contract being carried out?

Maj.-Gen. Seely: I regret that up to the present I have not been able to complete my inquiries into the points raised by my hon. and gallant friend. I will, however, if he will permit me, communicate with him as soon as the information I require is available.

The Dorchester Aerodrome

LORD ISLINGTON, in the House of Lords on August 18, asked the Government to what service it was intended to put the aerodrome near Dorchester; what amount of public money had been expended on it up to date; what amount was being expended monthly; whether the Government intended to complete the aerodrome, and if not, whether steps would immediately be taken to stop the expenditure. The Government should explain why valuable agricultural land had been absorbed at a time when every acre was required for the supply of food.

The Earl of Lytton said that it was Viscount Midleton who had first discovered in this matter the elements of a new scandal. Lord Midleton had been actuated by the highest possible motives, but he would be glad to know that in regard to some of the facts in a letter he had sent to the Times he had not been quite accurately informed, and in regard to others the facts were not quite so discreditable to the Government as he had supposed. The site was selected in September, 1917, for a coastal non-rigid airship station for the defence of the South Coast. No suitable alternative site could be found fulfilling the requirements, and the opposition by the Board of Agriculture was withdrawn and the site requisitioned on February 12, 1918. Only 70 out of the 370 acres of the farm concerned were disturbed, and the tenant's claim to compensation, recently agreed, amounted, to Michaelmas, 1919, only to £268 10s., including rent of the part of the farm occupied by the Government. That showed that, although the land was of agricultural value, very little damage had been done to it. The estimated cost of the whole scheme was £200,000, of which the shed was to cost £80,000. At the date of the Armistice nearly £100,000 had been spent. Work on the subsidiary buildings was then reduced, but the work on the shed was continued, the intention being to retain the station. It was not until May of this year that the staff finally decided to abandon the site for an air station. Upon that decision it was arranged to complete the roof of the shed and to use the shed for the storage of mines, a very large number of which were stored in commercial accommodation. The expenditure up to date was £182,000. At one time the owners were averse to selling this property, but they were now willing to sell it if the Government desired it, and he was inclined to think that that was the best course. The whole farm could, if it was so desired, be utilised for small holdings or experimental farms.

Viscount Midleton said that if his noble friend had gone down to the actual site in question he would have given rather a different account from that which he had given from official information.

The Earl of Lytton said that the noble Viscount assumed that November 11, 1918, was the end of the war. That, however, was not the case. That was the date when hostilities ceased, but, of course, they had to be in a position to resume hostilities if necessary.

The "Goliath" Found

It was with a sense of relief that Paris heard the news on August 23 that the Farman Goliath, which had left Mogador on August 15, and was last heard of at 5.45 a.m. on August 16, when it sent a wireless to Dakar asking for the direction of the wind, had been found. It appears that shortly afterwards the machine had to land at the negro village, Kayor, between St. Louis and Dakar, owing to trouble with propeller. The machine left Paris at noon on Sunday, August 10, with eight passengers, and reached Casablanca, a distance of 1,280 miles, at 5.40 p.m. on August 11. On August 14 the journey was continued as far as Mogador (190 miles), whence at 4 p.m. on the day following it started for Dakar. It travelled a further 900 miles and passed Port Etienne (by Cape Blanco) at 3.30 a.m. on Saturday, August 16.

Flying Under a Bridge

ANOTHER exploit of the same order as that of Godfroi, who flew through the Arc de Triomphe, has been carried out by the French pilot Malicon, who on Sunday last twice passed under the Var Bridge, near Nice. His machine, a Caudron, was of 14 metres (46 ft.) span, and the bridge has a span of 20 metres (65 ft.), while it is only 6 metres (20 ft.) high.

A "Round the World" Prize

A BRIEF message from Hoquiam, Washington, states that deeds to 1,000 acres of Gray's Harbour land, lying within what it has been hoped for years will prove an oil belt, are to be placed in a local bank as a reward for the aviator who first encircles the globe. Mr. George J. Hibbard, a Seattle lawyer, makes the offer and has set the time limit for winning the prize at August 1, 1920.

A "Record" Glide

A CLAIM for a "record" glide comes from Ithaca, N.Y. It is stated that on August 2 Mr. Rex Marshall, on a Thomas-Morse machine, when at an altitude of 17,000 ft. at the northern end of Lake Cayuga, glided 35 miles to Ithaca, restarting the engine when at a height of 6,000 ft.

On and Off a Roof

A CIRCUMSTANTIAL story comes from New York that on August 22 a machine, piloted by Mr. Edwin Ballough, alighted on the roof of a warehouse belonging to the Army authorities at Newark, N.J. The roof is described as 978 ft. long with a slight peak, which the machine straddled. After a few minutes the machine flew off again.

THE ROYAL AIR FORCE

London Gazette, August 12

The following temporary appointment is made:—
Staff Officer, 2nd Class (Air).—Maj. G. S. Irewin, A.F.C.; July 6 (substituted for the notification in *Gazette* July 18).

Flying Branch.

Sec. Lieut. W. D. Wood is antedated in his appointment as Sec. Lieut. (A.); May 10.

The following Flight Cds. are granted temporary commissions as Sec. Lieuts. (S.):—A. H. Murphy; Oct. 19, 1918. A. C. Kennedy; Oct. 25, 1918. W. F. McCunn, R. E. Parker, H. Small; Nov. 1, 1918.

The following relinquish their commissions, on ceasing to be employed:—Sec. Lieut. H. R. Herbert (Lieut., E. Ont. R.); Feb. 28. Lieut. S. D. Morrison (Lieut., Nova Scotia R.); April 26. Capt. G. H. Morton (Capt., Brit. Col. R.); May 26. Sec. Lieut. (Hon. Lieut.) H. B. Kennedy (Lieut., Can. Fid. Art.); June 1. Lieut. H. T. Singleton (Lieut., R. Dublin Fus.); July 24. Sec. Lieut. (Hon. Lieut.) W. M. F. Bayliss (Lieut., Lancers); July 26. (Then follow the names of 32 officers who are transferred to the Unemployed List under various dates.)

Maj. H. S. Shield, M.C. (Lieut., N. Staffs. R.), resigns his commission, and is permitted to retain his rank; Aug. 13.

The date of appointment of the following Sec. Lieuts. to be Lieuts. is May 8, 1919, and not May 8, 1918, as stated in *Gazette* July 22:—A. Beedie, E. A. C. Britton, W. B. Crouch, R. Henderson, C. N. James, W. S. Jenkins, D.F.C., W. H. Jordan, A. D. Kiernander, H. W. Matthews, T. H. Mercer, F. R. Oddy, T. G. Reed, J. W. Sole, A. G. B. Whittaker, L. A. Williamson.

The notification in *Gazette* March 18 concerning Sec. Lieut. H. R. Herbert (Lieut., E. Ont. R.), is cancelled.

Administrative Branch.

P. S. Stewart is granted a temporary commission as Sec. Lieut.; Aug. 7. (Six officers transferred to the Unemployed List.)

Sec. Lieut. J. Nowell (Lieut., Worc. R.) relinquishes his commission on account of ill-health contracted on active service; Aug. 12.

Technical Branch.

(Five officers transferred to the Unemployed List.)

Memoranda.

(Two Oversea Cadets granted temporary commissions as Sec. Lieuts.)

London Gazette, August 15.

Lieut. W. B. Farrington is granted a permanent commn. as Lieut. (A.) (Aug. 1) (substituted for notification in *Gazette*, Aug. 1).

The surname of Capt. W. B. Callaway is as now described, and not "Galloway," as stated in *Gazette*, Aug. 1.

The following temporary appointments are made:—
Staff Officer, 2nd Class.—(Air) Capt. A. D. Spiers; Nov. 11, 1918; and to be actg. Major while so employed, till April 30.

Staff Officers, 3rd Class.—(Air) Capt. V. Buxton, from S.O. 2; Aug. 2. Sec. Lieut. A. Jukes; July 13, and to be actg. Capt. while so employed.

Flying Branch.

Capt. A. W. Bird, D.S.O., to be graded for purposes of pay and allowances, as Major while employed as Major (A.); May 1.

Lieut. R. G. Rolfe-Rogers to be graded for purposes of pay and allowances as Capt. while employed as Capt. (A.); May 1.

Lieut. H. C. Leaver to be Lieut. (A.), from (O.); June 3, 1918.

Sec. Lieut. C. L. C. Craft (late Gen. List, R.F.C., on prob.) is confirmed in his rank as Sec. Lieut. (A.); Nov. 2, 1918.

J. E. Tarlton (Sec. Lieut., R.G.A.) is granted a temp. commn. as Sec. Lieut. (A.); July 7, 1918.

T. A. Woodward (Sec. Lieut., L'pool R.) is granted a temp. commn. as Sec. Lieut. (O.); Nov. 16, 1918.

The following relinquish their commns. on ceasing to be employed:—Sec. Lieut. F. W. F. Turner; Sept. 14, 1918. Lieut. J. G. MacKenzie (Lieut., Cent. Ont. R.); March 31. Lieut. H. Cassels (Capt., Can. Highrs.); April 14. Lieut. R. Grandy (Lieut. (actg. Capt.), R. Newfoundland R.); June 22. Lieut. (Hon. Major) J. L. Booth (Major, R.E., T.F.); June 30. Sec. Lieut. A. W. Wyncoll (Lieut., R. Lancers R.); July 29. Sec. Lieut. (Hon. Lieut.) J. F. D. Tanqueray (Lieut., Can. Engrs.); Aug. 6.

(Then follow the names of 93 officers transferred to unemployed list under various dates.)

The following Lieuts. relinquish their commns. on account of ill-health, and are permitted to retain their rank:—H. F. N. Jones (contracted on active service); June 12. C. Miller (contracted on active service); June 25. W. R. Elson, E. R. Salter (contracted on active service); July 31. J. Burdekin (contracted on active service), A. E. Garrison, M.C. (caused by wounds), E. Snell; Aug. 1.

Sec. Lieut. W. D. Wood is antedated in his appointment as Sec. Lieut. (A.); May 10, 1918 (substituted for the notification in the *Gazette* of Aug. 12).

The rank of Lieut. D. F. Brookes is as now described, and not "Sec. Lieut.," as stated in the *Gazette* of May 6.

The notification in the *Gazette* of Dec. 31, 1918, concerning Sec. Lieut. D. G. Fraser, is cancelled.

The notification in the *Gazette* of June 3 concerning Lieut. G. F. Bell, is cancelled.

The notification in the *Gazette* of July 4 concerning Sec. Lieut. C. Butcher, is cancelled.

The notification in the *Gazette* of July 11 concerning Sec. Lieut. R. J. Acheson, is cancelled.

Administrative Branch.

Sec. Lieuts. to be Lieuts.:—H. V. Hall; Nov. 2, 1918. R. W. Johnson; Aug. 5.

The following relinquish their commns. on ceasing to be employed:—Sec. Lieut. P. C. Cooper (Sec. Lieut., Northants. R.); April 20, 1918 (substituted for notification in the *Gazette* of July 22). Lieut. V. M. McMahon, M.C. (Lieut., R. Dub. Fus.); Feb. 9. Lieut.-Col. E. H. Davidson, O.B.E., M.C. (Capt., Gord. Highrs.); June 12. Lieut. C. M. Sinclair (Lieut., R.A.S.C.); June 24. Lieut. (Hon. Capt.) W. F. T. James (Capt., Glam. Yeo.); July 9. Lieut. J. Redmond, M.C. (Lieut., R.I. Rif.); Aug. 1. Lieut. W. S. King, (Lieut., R. Newfoundland R.); Aug. 10.

(Then follow the names of 18 officers transferred to unemployed list under various dates.)

Capt. R. B. H. Lechmere (Dragoon Gds.) relinquishes his commn. on account of ill-health caused by wounds; Aug. 12.

Lieut. H. F. Proctor relinquishes his commn. on account of ill-health caused by wounds, and is permitted to retain his rank; July 30.

The following Sec. Lieuts. relinquish their commns. on account of ill-health, and are permitted to retain their rank:—C. McI. French; July 12 (substituted for notification in *Gazette*, Jan. 21). C. Hunter; Aug. 6.

Technical Branch.

Capt. A. D. Spiers to be actg. Major while employed as Major, Grade (A.); May 1.

E. I. M. Emtage; July 12, 1918 (substituted for notification in *Gazette*, Jan. 3).

Sec. Lieut. (Hon. Lieut.) R. V. Weeks to be Lieut.; May 23, 1918, without pay and allowances of that rank prior to Nov. 3 (substituted for notification in *Gazette*, May 9).

Sec. Lieut. (Hon. Lieut.) L. G. Martin is transferred temporarily to unemployed list, from March 27 to May 29 (substituted for notification in *Gazette*, June 17).

(Then follow the names of 21 officers transferred to unemployed list under various dates.)

Lieut. C. J. M. Lowe, (R.E.) relinquishes his commn. on account of ill-health (Aug. 12).

Sec. Lieut. A. C. Wright relinquishes his commn. on account of ill-health, and is permitted to retain his rank; Aug. 1.

Medical Branch.

Major (actg. Lieut.-Col.) B. R. Bickford, D.S.O. (Staff Surg., R.N.) relinquishes his commn. on ceasing to be employed; Aug. 1.

Capt. R. Hall is transferred to unemployed list; July 13.

Capt. T. E. Mulvany relinquishes his commn. on account of ill-health contracted on active service, and is permitted to retain his rank; Aug. 13, 1918.

Memoranda.

The following warrant officers are granted hon. commns. as Sec. Lieuts.:—L. L. Lipsky, J. V. Smyrnoff; July 30.

Capt. M. McK. Wood, O.B.E. (Capt., Gordon Highrs.), relinquishes his commn. on being elected M.P.; April 15.

Lieut. W. Lingard, M.B.E., is transferred to unemployed list from (S.O.); July 31.

The notification in *Gazette*, July 4, concerning Sec. Lieut. C. W. Kerr is cancelled. The notification in *Gazette*, July 11, to stand.

London Gazette, August 19.

Permanent Officers.

Promotions.

Air Vice-Marshal Sir Hugh Montague Trenchard, Bart, K.C.B., D.S.O., to be Air Marshal; Aug. 11.

The following temporary appointments are made at the Air Ministry:—
Staff Officer, 1st Class (Air).—Lieut.-Col. J. A. Chamier, C.M.G., D.S.O., O.B.E.; Aug. 1.

Staff Officer, 2nd Class (Air).—Maj. B. E. Sutton, D.S.O., O.B.E., M.C.; July 31, vice Capt. W. A. A. Chauncy.

Staff Officer, 3rd Class (Air).—Capt. W. A. A. Chauncy, from (S.O. 2); July 31.

The following temporary appointments are made:—
Staff Officers, 1st Class (P.).—Lieut.-Col. C. T. MacLean, D.S.O., M.C.; Aug. 15. (T.)—Maj. A. Levick, from (S.O. 2); Aug. 2.

Staff Officers, 2nd Class (Q.).—Lieut. C. E. Hodgson, M.B.E.; May. 5. (T.)—Maj. A. Levick; June 14.

Staff Officers, 3rd Class (P.).—Capt. G. M. Broadburn; April 30; Sec. Lieut. J. M. McEntegart, and to be actg. Capt. till April 30 (substituted for the notification in *Gazette* Jan. 21); Dec. 20, 1918. (T.)—Lieut. J. A. H. Savage; Feb. 14.

Staff Officers, 4th Class (2nd Grade).—Capt. A. W. Hammans; June 2.

The notification in *Gazette* July 18, concerning Sec. Lieut. (Actg. Lieut.) J. M. McEntegart is cancelled.

The notification in *Gazette* Aug. 5, concerning Maj. R. C. Lane, is cancelled.

Flying Branch.

Capt. F. D. Lord Doune, M.C., to be Capt. (A.), from Aide-de-Camp; July 22.

Capt. E. J. D. Routh to be Capt. (A.), from (S.O.); July 1.

Lieuts. to be actg. Cpts. whilst empld. as Cpts. (A.):—L. H. Browning, M.C., N. C. Buckton, F. H. Davies, M.C., C. J. S. Dearlove, W. F. J. Harvey, D.F.C., G. L. Hobbs, M.C., C. L. King, M.C., D.F.C., H. F. Nicholls, D.F.C., A. D. K. Perkins; May 1.

Lieuts. to be graded for purposes of pay and allowances as Cpts. whilst employed as Cpts. (A.):—C. T. Black, F. W. Clark, J. Cottle, D.F.C., H. G. W. Debenham, G. Eastwood, I. G. Elias, M. M. Freehill, D.F.C., R. J. Gammon, D.F.C., R. A. George, M.C., J. G. Gillanders, D.F.C., R. Grice, C. W. Hamilton, T. Hayes, A.F.C., F. R. Hockney, L. N. Hollinghurst, D.F.C., J. W. Jones, S. Jones, D.F.C., H. P. M. Kesterton, M.C., H. P. Lale, D.F.C., A. O. Lewis-Roberts, D.F.C., J. McBain, D.F.C., B. McEntegart, A. McGregor, D.F.C., W. F. Mayoss, H. Munden, D.F.C., G. S. Peffers, D.F.C., H. B. Pett, M.C., F. J. Phillips, W. O. Phillips, S. L. Pope, A. W. E. Reeves, D.F.C., G. T. Richardson, E. L. Roberts, T. Roberts, C. D. Skinner, S. J. Stewart, W. D. B. Taylor, S. H. Wallage, M.C., F. G. C. Ware, M.C.; May 1.

Lieut. E. D. Harding to be graded for purposes of pay and allowances as Capt. whilst empld. as Capt. (O.); May 1.

Sec. Lieuts. to be graded for purposes of pay and allowances as Cpts. whilst employed as Cpts. (A.):—O. A. P. Heron, D.F.C., C. H. Howitt; May 1.

Sec. Lieut. (Hon. Lieut.) J. F. D. Tanqueray, D.F.C., to be graded for purposes of pay and allowances as Capt. whilst empld. as Capt. (O.); May 1.

Sec. Lieuts. to be Lieuts.:—(Hon. Lieut.) L. R. Wheeler; April 21, 1918. R. T. Tarrant; Mar. 26.

Flight-Cadet 64479 C. R. Humphries is granted a temp. commn. as Sec. Lieut. (O.); Nov. 8, 1918.

The following relinquish their commns. on ceasing to be empld.:—Sec. Lieut. (Hon. Lieut.) D. M. Layton (Lieut., W. Ont. R.); Jan. 10. Lieut. G. B. Wootton (Lieut., New Brunswick R.); May. 21. Maj. C. M. Murphy (Lieut.-Comdr., R.N.); July 24. Lieut. W. L. Christian (Lieut., R.G.A.), Lieut. J. E. Cole (Lieut., Quebec R.), Lieut. T. I. Findley (Lieut., Can. F.A.), Lieut. H. N. Price (Lieut., Nova Scotia R.); July 31. Lieut. C. R. Gross (Lieut., Manitoba R.); Aug. 8. Lieut. A. C. S. Irwin (Lieut., R.I. Rif.); Aug. 9.

(Then follow the names of 117 officers transferred to Unemployed List.)

Capt. C. H. W. Godfrey relinquishes his commn. on account of ill-health, and is permitted to retain his rank; Aug. 8.

Lieut. L. Francis relinquishes his commn. on account of ill-health, and is permitted to retain his rank; May 20 (substituted for the notification in the *Gazettes* of March 25 and April 29).

The following Sec. Lieuts. relinquish their commns. on account of ill-health, and are permitted to retain their rank:—L. F. Chisenhall (contracted on active service); May 20 (substituted for notification in *Gazette* of May 13).

R. J. Acheson; July 3 (substituted for notification in *Gazette* of May 23).

J. D. Fitzsimmons; Aug. 8.

The rank of Lieut. A. E. Baxter is as now described, and not Sec. Lieut. as stated in the *Gazette* of June 17.
The rank of Lieut. J. G. Angus, is as now described, and not Sec. Lieut. as stated in the *Gazette* of Aug. 8.
The name of Lieut. G. P. Packenham-Walsh is as now described and not "G. P. P. Wash," as stated in the *Gazette* of July 18.
The surname of Lieut. D. F. Cox is as now described, and not "Fox" as stated in the *Gazette* of Aug. 1.
The notification in the *Gazette* of Aug. 23, 1918, concerning T. J. Southern (Lieut., W. Yorks R.) is cancelled.
The notification in *Gazette* Feb. 14 concerning Sec. Lieut. C. H. Wilcox is cancelled.
The notification in *Gazette* April 11 concerning Sec. Lieut. W. T. Leonard is cancelled. The *Gazette* of May 16 stands.
The notification in *Gazette* July 8 concerning Sec. Lieut. D. J. Brooks is cancelled.
The notification in *Gazette* July 11 concerning Sec. Lieut. G. J. Ellsmere is cancelled.
The notification in *Gazette* July 18 concerning Sec. Lieut. F. H. Newton is cancelled.

Administrative Branch.

Maj. C. S. Danby, M.C., to be Maj. from (A.); March 24.
Capt. D. S. Jillings, M.C., to be graded for purposes of pay and allowances as Maj. while employed as Maj.; May 1.
Capts. to be Capts.:—H. Thompson, from (T.); Jan. 18. W. J. Coombes, from (S.O.), F. E. B. Whitfield, M.B.E., from (S.O.); July 1.
To be actg. Capts. while employed as Capts.:—Lieut. F. R. C. Davidson; from Aug. 29, 1918, to April 30. Sec. Lieut. W. Rollinson; May 1.
Lieuts. to be graded for purposes of pay and allowances as Capts. while employed as Capts.:—H. G. Bellamy, T. D. S. Purdey; May 1.
Lieut. W. E. N. Growden to be graded for purposes of pay and allowances as Capt. while employed as P.T. Officer; May 1.
Lieuts. to be Lieuts. from (S.O.):—L. V. Boxer; June 13. J. C. Nairn; July 1. R. B. Fricker; July 10.
Lieut. R. R. Money to be Lieut., from (A.); July 14.
G. Heard (Temp. Lieut. and Qmr., Gen. List) is granted a temp. commn. as Lieut.; April 1, 1918.
Sec. Lieut. S. A. E. Cowell to be Lieut.; Aug. 7.
Sec. Lieut. (Hon. Capt.) R. Hodge to be graded for pay and allowances as Lieut. while employed as Lieut.; May 1.
T. J. Southern (Lieut., York Hrs.) is granted a temp. commn. as Lieut.; Aug. 7, 1918, with seniority April 1, 1918 (substituted for notification in *Gazette* May 2).
Sec. Lieut. A. C. Cunison to be Sec. Lieut., from unemployed list; May 5, *precd.* next below W. Borland).
Sec. Lieut. J. G. Renshaw to be Sec. Lieut., from (A.); July 11.
Sec. Lieut. (Hon. Lieut.) G. F. A. Lewin, M.C., to be Sec. Lieut. (Hon. Lieut.) from K.B.; April 15.
Sec. Lieut. S. J. Dodson to be Sec. Lieut., from (S.O.); June 16.
Sec. Lieut. D. D. Carcary (late Gen. List, R.F.C., on prob.) is confirmed in his rank as Sec. Lieut.; Nov. 9, 1918.
(Then follow the names of 30 officers transferred to Unemployed List.)
Lieut. C. Baines relinquishes his commn. on account of ill-health caused by wounds and is granted the rank of Capt.; Aug. 7.
Lieut. R. H. Harmer relinquishes his commn. on account of ill-health caused by wounds and is permitted to retain his rank; Aug. 7.
The surname of Maj. R. Money is as now described, and not "Honey" as stated in *Gazette* Aug. 1.
The date of resignation of commn. of Sec. Lieut. H. W. Gallagher is April 16, and not March 15, as stated in *Gazette* April 15.
The notification in *Gazette* April 1 concerning Sec. Lieut. J. H. P. W. Hither is cancelled.
The notification in *Gazette* of April 1 concerning Sec. Lieut. E. Rendle is cancelled.
The notification in *Gazette* of July 15 concerning Lieut. C. Baines is cancelled.
The notification in *Gazette* of July 25 granting C. H. Haward a temp. commn. as Sec. Lieut. is cancelled at his own request.
The notification in *Gazette* of March 18 concerning Sec. Lieut. D. J. Brookes is cancelled.

Technical Branch.

Lieut. (Hon. Maj.) W. R. Bernard to be actg. Maj. whilst employed as Maj., Grade (A.) from Sept. 9, 1918, to April 30.
Capts. to be graded for purposes of pay and allowances as Majs. whilst employed as Majs., Grade (A.):—G. L. Gooden, D. MacK. P. Riach, M.B.E., O. V. Thomas, O.B.E.; May 1. J. Robinson; July 20.
Capt. H. G. Ford, O.B.E., to be graded for purposes of pay and allowances as Maj. whilst employed as Maj., Grade (B.); from May 1 to June 24.
Capt. A. J. Hurst to be Capt., Grade (A.) from (S.O.) May 1.
Lieut. P. M. Brambley to be actg. Capt. whilst employed as Capt., Grade (B.) May 1.
Lieuts. to be graded for purposes of pay and allowances as Capts. whilst employed as Capts., Grade (A.):—D. Drower, H. W. G. Drummond, W. B. Everton,

P. R. Hutchinson, N. Liddall, A. W. H. Phillips, C. A. Stevenson, J. D. Whiteman; May 1.
Lieuts. to be graded for purposes of pay and allowances as Capts. whilst employed as Capts., Grade (B.):—C. H. Boyle, H. L. Connor, A. H. Dye, F. Hitchens, from (Ad.) H. Stansfield, W. Yonge (May 1).

Sec. Lieuts. to be graded for purposes of pay and allowances as Capts. whilst employed as Capts., Grade (A.):—F. A. Dickinson, N. B. Helmsley, M.B.E., J. W. Jean, D.S.M., May 1; J. R. Brown, M.C. (from May 12 to July 14); T. E. H. P. Kennedy, May 22; (Hon. Lieut.) J. K. M. Dodds, June 16.

Sec. Lieuts. to be graded for purposes of pay and allowances as Capts. while employed as Capts., Grade (B.):—C. F. Chinery, J. V. Martyn, N. Openshaw, H. H. Williams, May 1.

Sec. Lieut. (Hon. Lieut.) T. E. Pennington to be actg. Capt., without pay and allowances of that rank, while specially employed; June 28.

Lieut. A. E. W. Finch to be Lieut., Grade (A.), from Grade (B.); May 1.

Sec. Lieuts. to be graded for purposes of pay and allowances as Lieuts. while employed as Lieuts., Grade (A.):—N. F. Burch, F. O. Burnley, J. O. Cooper, R. M. Duke, M. B. Fitzgerald (Hon. Lieut.) R. A. Law, W. St. J. Littlewood, G. J. H. Stein, E. J. Wilkins; May 1.

Sec. Lieuts. to be graded for purposes of pay and allowances as Capts. while employed as Capts., Grade (B.):—(Hon. Lieut.) H. Allsebrook, F. Adams, R. Fell, H. Haworth, F. Hembley, (Hon. Lieut.) R. Kearton, C. H. N. Nunn, C. G. A. Poole, W. R. Tuddenham; May 1.

Sec. Lieut. C. F. B. Bassil to be Lieut.; Oct. 13, 1918 (substituted for notification in *Gazette* Jan. 3).

Sec. Lieut. E. L. M. Emtage to be Lieut.; Aug. 12, 1918 (substituted for notification in *Gazette* Jan. 3).

Sec. Lieut. A. E. Firth to be Lieut., without pay and allowances of that rank; Dec. 10, 1918.

Sec. Lieut. F. W. Corbett to be Sec. Lieut., Grade (A.), from Grade (B.); May 21.

Sec. Lieut. I. Van N. Reynecke to be Sec. Lieut., Grade (A.), from (Ad.); Nov. 28, 1918.

Sec. Lieut. A. K. Murray to be Sec. Lieut., Grade (B.), from (S.O.); July 21.

Sec. Lieut. W. Z. Grandi to be Sec. Lieut., Grade (B.), from (A.); July 30. (Then follow the names of 33 officers transferred to Unemployed List.)

Sec. Lieut. (Hon. Lieut.) C. N. Smith relinquishes his commn. on account of ill-health caused by wounds, and is permitted to retain the rank of Lieut.; Aug. 9.

Sec. Lieut. C. Rawdon-Schofield relinquishes his commn. on account of ill-health contracted on active service, and is permitted to retain his rank; Aug. 7.

The initials of Maj. J. P. Elsdon are as now described, and not "J. R.," as stated in *Gazette*, April 1.

The notification in *Gazette*, April 29, concerning Sec. Lieut. E. W. Bell is cancelled.

The notification in *Gazette*, July 8, concerning Sec. Lieut. E. B. Saunders, is cancelled.

The notification in *Gazette*, Dec. 13, 1918, concerning Sec. Lieut. (Hon. Lieut.) J. D. Robinson, is cancelled.

Medical Branch.

Lieuts. to be Capts.:—C. T. Costello; Mar. 26. G. M. Mellor; May 15.

H. C. Cox, G. Meadows; June 1. L. C. Broughton-Head, H. B. Troup, H. T. Prys-Jones; June 6. J. Coulter Smith, R. Mugliston, P. E. Williams; June 10. C. Lambinudi; June 14. A. Kirkhope; June 17. P. M. Carroll; June 18. J. P. Horsford; July 5. A. K. Soutar; July 6. G. Dunderdale, J. P. Hennessey; July 12. G. W. Harbottle, M. J. Whelton; July 15. J. Valerie; July 22. J. P. Wells; July 24. A. St. J. Hennessey; July 29. G. W. J. Bonsfield; Aug. 5.

Transferred to unemployed list.—Maj. C. F. Bainbridge; Feb. 5. Lieut. N. Homewood; Mar. 20. Capt. K. B. Aickman; Aug. 6.

Dental Branch.

Lieuts. to be Capts.:—G. Warner; May 20. R. Fyson; May 25. C. M. Shirreff; June 6. H. L. Thorn; June 10. N. H. Medhurst; June 17.

N. L. Smallbone; July 1. C. M. John; July 18. G. Hughes; July 22. G. F. H. Bloom; Aug. 10.

Memoranda.

(Then follow the names of 6 Overseas Cadets who are granted temp. commn. as Sec. Lieuts.)

(Then follow the names of 274 Cadets who are granted Hon. commns. as Sec. Lieuts.)

Transfd. to unemployed list:—Capt. P. P. C. Penberthy, O.B.E., from (S.O.); April 30 (substituted for notification in the *Gazette* of Aug. 8). Capt. H. P. Maybury, O.B.E., from (S.O.); July 16.

Capt. R. H. Parkinson (Capt., R.E., T.F.) relinquishes his commn. on account of ill-health contracted on active service, and is granted the hon. rank of Maj.; Aug. 19.

The surname of Capt. W. B. Callaway is as now described, and not "Gallo-way" as stated in the *Gazette* of Jan. 3.

The Christian names of 531467 Herbert James Blackwell are as now described, and not as stated in the *Gazette* of July 15.

R.A.F. Pigeons

AN official handbook of more than ordinary interest which has recently been published, is the Air Ministry Pigeon Service Manual. During the War many cases occurred in which the crews of aircraft owed salvation from perilous situations entirely as a result of the employment of pigeons, and obviously the great value of their services must not be lost sight of in the development of civil aviation. In flying over the sea or over large expanses of uninhabited country messenger pigeons are an indispensable adjunct to wireless telegraphy.

Moreover, in contradiction to the suggestion that all pigeons used by His Majesty's Services are being disposed of, it is emphasised that aircraft of the R.A.F. will continue to carry pigeons on occasions where their use might be required, and the training of pigeons within the British Isles, also, will proceed. Therefore it is very necessary in the future equally as in the past that the maxim in regard to pigeons should be "Don't Shoot!"

The Pigeon Service Manual, in addition to being a comprehensive textbook on pigeon lore from the standpoint of aeronautical needs, contains much that will have a wider

appeal. A chapter devoted to some of the meritorious performances of pigeons on active service with the Air Force at sea is particularly interesting. It is obtainable through any bookseller, and the price is 6d.

Air Smuggling into Sweden

FROM Stockholm comes a story that the mysterious affair of the aeroplane which dropped parcels containing valuables has now been cleared up. It seems that the German, Dr. Stockhausen, who picked up the parcels, states that the contents belonged to Prince William of Wied, the ex-Mpret of Albania, who had sent them to Sweden to be deposited in a Swedish bank until conditions in Germany would allow of sending them back. Dr. Stockhausen declared that there had not been the slightest intention of deceiving the Swedish Customs authorities.

To Carry 100 Passengers

It is stated that there is now being built in the Caproni works at Vissola a giant machine of an entirely new type capable of carrying 100 passengers. Further details will be awaited with interest.

SIDE-WINDS

WE understand from Messrs. Ogilvie and Partners that they have been appointed to take over the investigation and assessment of aircraft claims made under Lloyds policies. This more particularly refers to the Aviation Insurance Association who issue Lloyds Aviation policies, and policies of the Eagle, Star and British Dominions and the Excess Insurance Co., Ltd. Arrangements have been made by which a prompt assessment and settlement should be effected, and it is anticipated that the services of an independent technical body will be of value to both the underwriters and to the insured. It is hoped also that these arrangements will tend to a reduction in rates.

CAPT. TRUELOVE is now on his way to Spain with one of the Avro standard 504 K machines, which has been especially painted in the Spanish national colours. This machine will give demonstrations before the King of Spain and in various parts of the country. Another 35 h.p. "Baby," to replace the one sent to Amsterdam, where she is giving a fine account of herself, is nearly completed. The "Puma" engined racing machine, which Messrs. A. V. Roe and Co. have entered for the Schneider Cup is rapidly nearing completion. She is having her wings fitted on, and these—when covered—will practically complete her in skeleton form. Another 504 L seaplane is completed in the shops, and one or two others are being overhauled after a strenuous time at various seaside resorts.

It is with great regret that we record the death, from heart failure, on Sunday, August 17, of Mr. James R. Nisbet, who had been a managing director from the beginning of the business of Bowden Wire, Ltd., and its associated companies in France, Germany, and elsewhere.

MR. NISBET was intimately concerned in the formation of the original Bowden Wire Syndicate, Ltd., to acquire the patents in the method of power transmission by means of a flexible wire invented by the late Mr. E. M. Bowden, and had taken a very close and personal interest in its developments. Early this year, although far from well, he paid a visit to the United States in its interests.

MR. NISBET, who was in his fifty-eighth year, was one of the earliest members of the Royal Automobile Club and of the Royal Scottish A. C., and served on the committee of both. He was a Vice-President and Chairman of the Auto-cycle Union, and a Vice-President of the Cycle and Motor Cycle Manufacturers' and Traders' Union.

For organisation purposes, and in order to cope with increased and more varied business, Messrs. Whiteman and Moss, Ltd., have removed their head office to 71, Finsbury Pavement, London, E.C. 2. (Telephone, London Wall, No. 2041) and their warehouse and stores to 29, Betterton Street, Endell Street, W.C. 2. They are continuing their business of suppliers of all kinds of accessories and parts for aircraft, motors, engineers, etc., and are also taking up and looking for new lines in this class of trade.



C.A.V. SPORTS: 1. Mr. C. A. Vandervell. 2. Group of competitors for the fancy dress prize. 3. Foreman's relay race. Mr. Leeson, of No. 2 team, winning. 4. Obstacle race. A snap of the competitors extracting floating apples with their teeth. 5. Boot race. Run 50 yards, sort boots out of sack, put them on, and return to start. Competitors finding their boots! 6. Mr. W. R. Clennell, the runner-up in the high jump. 7. Mr. A. Grant winning the high jump, 4 ft. 10 ins. 8. Start of the ladies' egg-and-spoon race. 9. Fire Brigade competition for Chamber of Commerce Shield: Acton second team laying out six lengths of hose, after dressing and mounting engine. Time, 1 min. 43 secs.

RESETTLEMENT

THERE are many officers and men of the R.A.F. who are demobilised or are about to be demobilised.

In order to assist those who are undecided or are seeking advice as to their prospects in civil life, the Editor has arranged for an expert, with wide experience of service, industrial and educational conditions, to give advice to those who may solicit it through the medium of this Journal.

Applications, which must be in writing, should be marked *Resettlement*, and addressed to the Editor, FLIGHT, 36, Great Queen Street, Kingsway, W.C. 2. They will be dealt with in these columns, as far as possible, in rotation.

A. C. G., LIEUT., R.A.F.—Unfortunately a considerable number of ex-officers and other ranks are similarly placed. One course, and perhaps the most satisfactory in the long-run, would be to complete your training as a solicitor. If necessary, you should obtain financial help from the Ministry of Labour for this purpose. As you have not received any systematic practical training, you will find it extremely difficult to obtain employment in a responsible technical capacity. However, no harm can be done if you apply to the leading motor manufacturers; state fully your qualifications and seek an appointment on the business side.

F. F. J., EX-RIGGER (Aeroplane).—Your suggestions are very sound. There are evening courses on aeroplane design and aero engines at the Regent Street Polytechnic. You should communicate with the Principal, from whom you will receive full particulars. Your example of keeping in touch with and improving your aeronautical knowledge in your spare time, with a view to resuming your connection with aviation when developments take place, should commend itself to others.

S. G., EX-RIGGER.—You will be well advised to give up any idea of finding employment as a rigger in commercial aviation for the present, as vacancies are scarce and the number of experienced riggers available is considerable. Why not return to your pre-war employment?

COMPANY MATTERS

J. Samuel White and Co.

THE report of J. Samuel White and Co. for the year ended April 5 last states that, subject to the payment of the balance of munitions levy and excess profits duty for the years 1916 to 1919 inclusive, but after providing for depreciation, the accounts show a profit of £185,381; £58,893 was brought forward, making £244,274, out of which the following amounts have been paid:—Income tax, £34,315; expenses re-issue of capital, etc., £1,045; interim dividend on the ordinary shares declared September 20, 1918, £14,000; one year's preference dividend, £8,400, leaving £186,514. It is now proposed to pay a dividend on the ordinary shares at the rate of 4s. 6d. per share, less tax, which will absorb £44,100, leaving £142,414 to meet the balance of munitions levy and excess profits duty for 1916 to 1919 inclusive. The values of additions to buildings, plant and machinery have been written down in the accounts at the rates allowed by the authorities in previous years. The works have been fully employed during the year, chiefly upon Admiralty work. On the change over from war to peace the Government gave orders for reconditioning work, and orders for other work having been booked the directors are assured that the establishment will be fully employed during the current year.

Wolseley Motors, Ltd.

THE report of Wolseley Motors, Ltd., for the year ended September 30, 1918, states that negotiations are in progress with the Inland Revenue in regard to the assessment for excess profits duty, and a provisional amount has been set aside in the accounts in respect of this liability. After providing for all trading expenses, contingencies, and depreciation, the trading for the year resulted in a net profit of £316,815. After payment of debenture interest, the purchase of stock for redemption, and other charges, there remains a balance of £178,718; £12,688 was brought forward, making £191,406. The directors propose to appropriate this as follows:—Dividend of 7 per cent. on the preference shares (already paid), £21,000; place to the credit of reserve account £150,000, and to carry forward £20,406. The whole of the company's resources were fully engaged throughout the year in the production of munitions of war.

NEW COMPANY REGISTERED

GOLDEN EAGLE AVIATION CO., LTD., 438, Corn Exchange, Corporation Street, Manchester.—Capital £5,000, in £1 shares. Aeroplane, hydroplane and airship manufacturers and dealers, etc. Acquiring premises at St. Ann's-on-Sea. First directors: Maj. H. S. Shield, M.C., Lieut. A. Pearson and Lieut. W. C. Ellis.

PUBLICATIONS RECEIVED

Magnetos. By A. P. Young, A.M.I.E.E. London: Iliffe and Sons, Ltd., 20, Tudor Street, E.C. 4. Price 4s. 6d.

Aircraft Compass Course and Speed Finder. London: Edward Stanford, Ltd., 12-14, Long Acre, W.C.

"The Limit." No. 14. August, 1919. Coventry: White and Poppe, Ltd. Price 2d.

"The Edgar Allen News." No. 1. July, 1919. Sheffield: Edgar Allen and Co., Ltd.

Conference of Research Organisations. London Department of Scientific and Industrial Research, 15, Great George Street, Westminster.

Commercial Aviation and its Relation to the Community. New York: United Aircraft Engineering Corporation.

AERONAUTICAL SPECIFICATIONS PUBLISHED

Abbreviations:—cyl.=cylinder; I.C.=internal combustion; m.=motors.

APPLIED FOR IN 1918

The numbers in brackets are those under which the Specifications will be printed and abridged, etc.

Published August 28, 1919.

- 1,164. P. R. BRADLEY. Method of fireproofing aircraft. (130,351.)
- 1,458. P. R. BRADLEY. Doping of aircraft. (130,354.)
- 1,461. W. BEARDMORE AND Co. and G. T. RICHARDS. Controlling mechanism for aircraft. (130,355.)
- 1,511. H. O. SHORT. Indicators of rate of ascent or descent. (130,356.)
- 1,625. SIR H. FOWLER and P. SALMON. I.C. aircraft engines. (130,361.)
- 2,015. L. BLERIOT. Aeroplanes. (130,372.)
- 2,535. E. LETORD. Strengthening plates for aircraft framework. (130,392.)
- 2,754. CELLON, LTD., T. TYRER AND Co. and others. Cellulose acetate solutions. (130,402.)
- 2,798. F. CAPRONI. Landing-carriages of aeroplanes. (130,409.)
- 2,938. 2,939 and 2,940. R. CAUDRON. Tanks for aircraft. (130,417, 130,418 and 130,419.)
- 3,126. S. A. FLOWER, K. O. HALE and E. E. W. BUTT. Aircraft framework. (130,425.)
- 3,175. BOULTON AND PAUL and J. D. NORTH. Aeroplane wings. (130,428.)
- 3,246 and 3,247. C. GRAHAME-WHITE and H. I. SIDGWICK. Control mechanism for aircraft. (130,430 and 130,431.)
- 19,601. Soc. DES MOTEURS Gnome et Rhone. Valve control gear. (130,530.)
- 20,290. A. J. GREENLY. Power controls for aeronautical machines. (130,535.)

APPLIED FOR IN 1919

The numbers in brackets are those under which the Specifications will be printed and abridged, etc.

Published August 21, 1919

- 4,864. A. TEBALDI. Aeroplanes. (123,987.)

If you require anything pertaining to aviation, study "FLIGHT'S" Buyers' Guide and Trade Directory, which appears in our advertisement pages each week (see pages xlix, 1, li and lii)

NOTICE TO ADVERTISERS.

IN order that "FLIGHT" may continue to be published at the usual time, it is now necessary to close for Press earlier. All Advertisement Copy and Blocks must be delivered at the Offices of "FLIGHT," 36, Great Queen Street, Kingsway, W.C. 2, not later than 12 o'clock on Saturday in each week for the following week's issue.

FLIGHT

The Aircraft Engineer and Airships

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